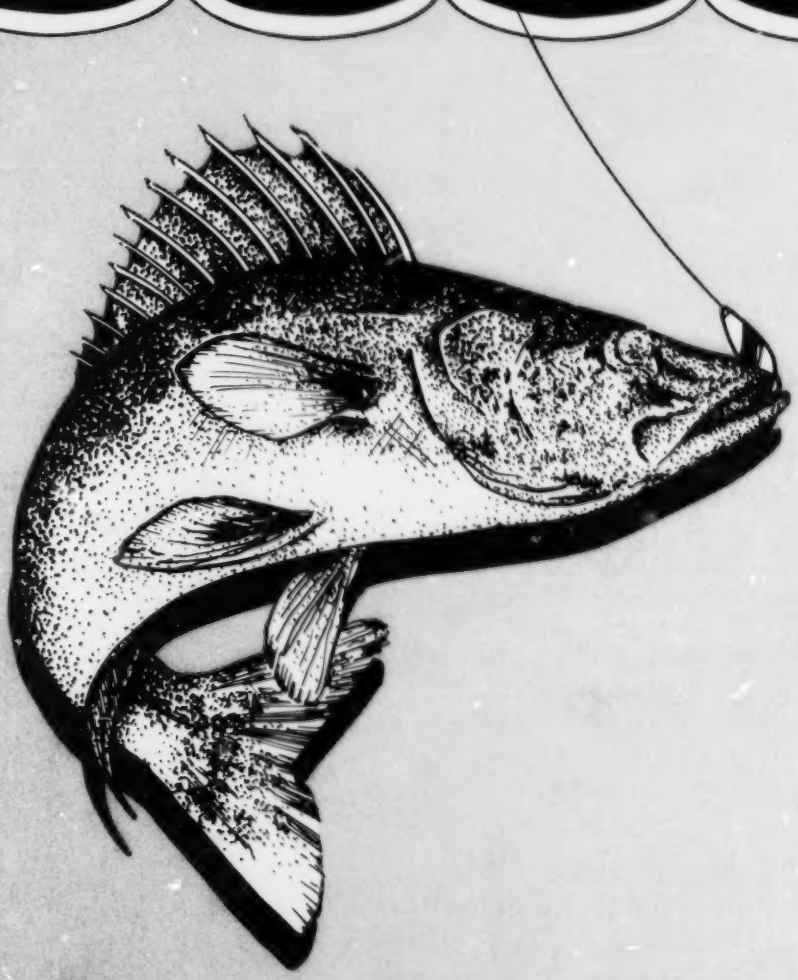
FORT FRANCES DISTRICT FISHERIES MANAGEMENT PLAN

1987-2000



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Ministry of Natural Resources

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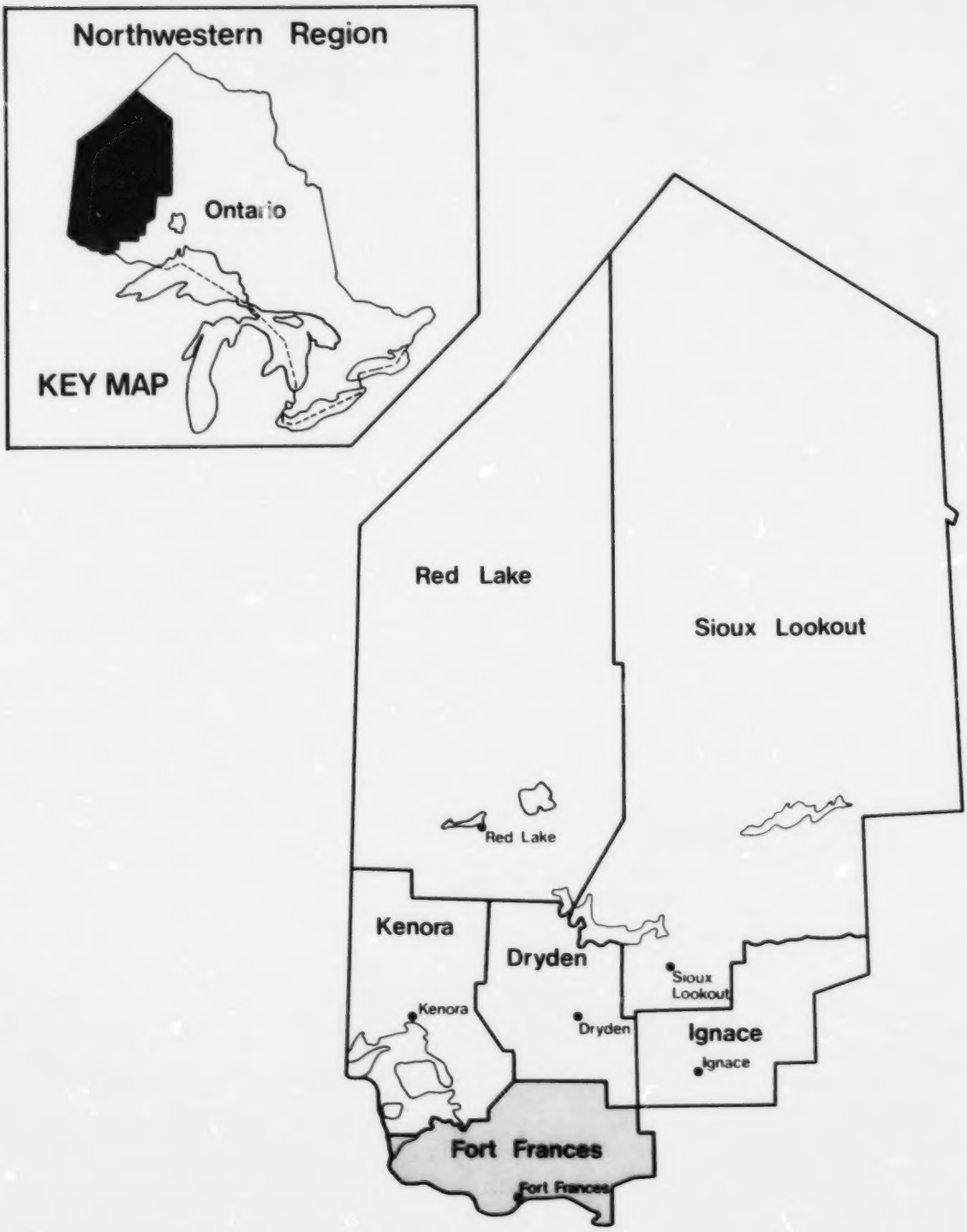
District and Regional Setting

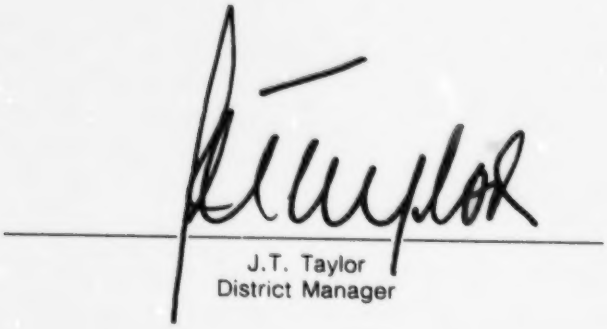


PREFACE

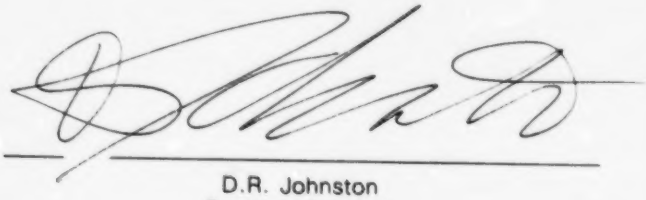
The purpose of this management plan is to provide concise long term direction (1987–2000) for fisheries management efforts in the Fort Frances Administrative District. This plan will guide the development of operational programs by fisheries managers and will indicate to the public the direction of future management.

The Fisheries Management Plan presents basic fisheries resource information, identifies problems related to the achievement of fisheries targets and describes strategies and tactics to solve these problems. It is these management strategies and tactics which collectively form the fisheries management direction for the Fort Frances District.

The development of management strategies and tactics was based on the principles of integrated resources management, accepted fisheries management practices and an analysis of public comments resulting from open houses (Appendix 1). Management strategies and tactics to be implemented are described in target specific implementation schedules.



J.T. Taylor
District Manager



D.R. Johnston
Regional Director

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1.0 INTRODUCTION

1.1 PURPOSE

The purpose of this management plan is to provide concise long term (1987-2000) direction for fisheries management efforts in the Fort Frances Administrative District of the Ontario Ministry of Natural Resources (OMNR). More specifically, it describes those fisheries management actions to be carried out on the basis of five year intervals.

1.2 PLANNING AREA

The Fort Frances District fisheries management plan will apply to all waterbodies within the Fort Frances Administrative District. This plan does not pertain to Lake of the Woods which is included in the Kenora District fisheries management plan (Fig. 1).

Intensive management efforts have been identified for Rainy Lake in recognition of its contribution to fisheries potential and angling opportunities in the District.

1.3 PLANNING CONTEXT

District fisheries management planning is undertaken within the resources planning and management system of the Ministry of Natural Resources (Fig. 2). Broad program direction for optimal resource use is provided in the Northwestern Ontario Strategic Land Use Plan (NWSLUP) (OMNR 1982). The Fort Frances District Land Use Guidelines (DLUG) (OMNR 1983), while adhering to this policy direction, identify appropriate land and water areas within the District *WHERE* Ministry programs will be carried out, and establishes program objectives and targets. District resource management plans describe *HOW* specific resources will be managed to achieve DLUG program objectives and targets.

Objectives and targets for fisheries management, initially taken from DLUG, have been refined through a process of target testing and public consultation, and are reflected in the management strategies.

Implementation of management tactics which is inherent to the achievement of each strategy, is described in a management schedule for five year operating periods. Annual fisheries work program plans will be developed in accordance with the implementation schedule and will describe the actual fisheries management operations to be conducted in a particular year.

1.4 PLANNING PROCESS

The development of a fisheries management plan for the Fort Frances District represents the final product of a six stage systematic planning process (Fig. 3).

Background documents were produced which provide the rationale for fisheries management strategies and tactics described in the plan. All of these documents are available for public review at the Fort Frances District office. This plan will be subject to formal review every five years in an effort to maintain consistent and progressive fisheries management direction in Fort Frances District. Plan amendments, suggesting major program changes, may occur as the need develops and can occur at any time in accordance with OMNR procedures and full public consultation.

This fisheries management plan identifies targets, goals, management direction and resource information that differ from some identified in the Fort Frances District Land Use Guidelines (DLUG) (Appendix 2). The fish planning process and final fisheries management plan represent the forum used to identify DLUG amendments for public review. These changes to the DLUG document will be incorporated in the five year review of the District Land Use Guidelines.

Indian subsistence fishing is recognized in this plan as an important use of fisheries resources but does not receive specific management direction through strategies and tactics. The Indian fishing negotiations currently underway will eventually establish direction for management of the Indian subsistence fishery. Plan amendment will occur if and when an Indian Fishing Agreement requires changes in the management plan.

1.5 POLICY AND TECHNICAL DIRECTION

Specific policy direction for this management plan was provided through the Fort Frances District Land Use Guidelines. The operational components of this plan will conform with the legislative requirements of the Environmental Assessment Act (R.S.O. 1975). This may necessitate changes to specific tactics contained in the plan.

Technical direction was provided by the Ministry of Natural Resources Planning Manual for District Fisheries Management Plans (OMNR 1986b). All management strategies and tactics satisfy the principles stated in the Strategic Plan For Ontario Fisheries (OMNR 1980) and are consistent with accepted fisheries management principles and practices.

FIGURE 2: DISTRICT FISHERIES MANAGEMENT PLANNING AND THE MINISTRY OF NATURAL RESOURCE PLANNING SYSTEM

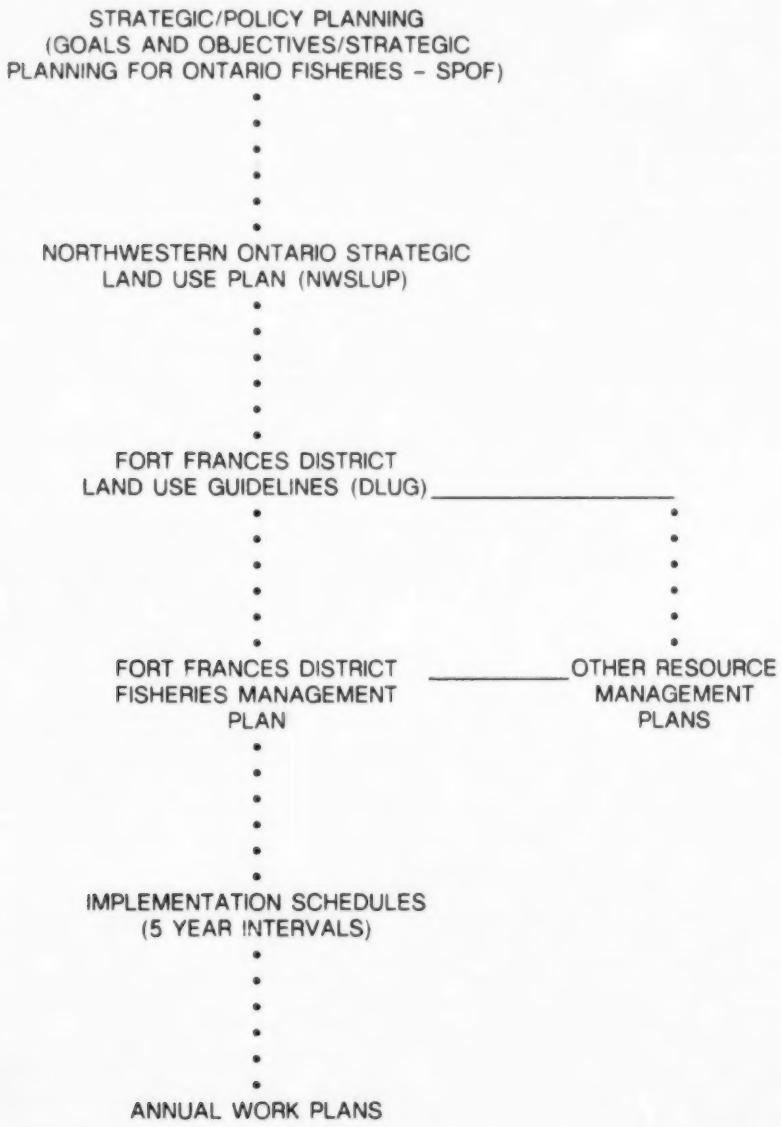

FIGURE 3: SYSTEMATIC PLANNING PROCESS FOR THE DEVELOPMENT OF THE FORT FRANCES DISTRICT FISHERIES MANAGEMENT PLAN

STAGE	DOCUMENT PRODUCED
1 PREPARATION OF TERMS OF REFERENCE	TERMS OF REFERENCE, FORT FRANCES DISTRICT FISHERIES MANAGEMENT PLAN (OMNR 1985a).
2 IDENTIFICATION OF OBJECTIVES AND TARGETS	
3 COLLECTION AND ANALYSIS OF BACKGROUND INFORMATION AND IDENTIFICATION OF PROBLEMS AND ISSUES	DETAILED BACKGROUND INFORMATION DOCUMENT, FORT FRANCES DISTRICT (OMNR 1985b).
4 IDENTIFICATION OF OPTIONAL FISHERIES MANAGEMENT STRATEGIES AND PREPARATION OF A BACKGROUND INFORMATION SUMMARY AND INTRODUCTION TO MANAGEMENT OPTIONS	BACKGROUND INFORMATION AND MANAGEMENT OPTIONS: A SUMMARY, FORT FRANCES DISTRICT (OMNR 1985c).
5 PREPARATION OF A DRAFT FISHERIES MANAGEMENT PLAN	DRAFT FISHERIES MANAGEMENT PLAN, FORT FRANCES DISTRICT (OMNR 1986a).
6 PREPARATION OF A FINAL FISHERIES MANAGEMENT PLAN	FISHERIES MANAGEMENT PLAN (FINAL) FORT FRANCES DISTRICT (This document)

1.6 PROGRAM INTEGRATION

Integration of the fisheries management plan with other District programs (example: timber management planning) was achieved through a planning team comprised of representatives from timber, lands, wildlife and fisheries management and the Ministry of Tourism and Recreation. The planning team was responsible for review and evaluation of the background documents and management plan to ensure that fisheries management recommendations were consistent with the direction of other programs.

1.7 PUBLIC CONSULTATION

A series of open houses comprised the primary forum for public input to the fisheries management planning process. An open house which presented a summary of background fisheries information and introduced optional management strategies (OMNR 1985c) to the public for their review and comment was held in December 1985. Open houses to allow the public to review and comment on the draft fisheries management plan (OMNR 1986a) were held in May 1986 and September 1987. In addition to the open houses, meetings were held with representatives of various interest groups to deal with specific problems and issues. A summary of public consultation efforts is provided in Appendix 1.

All public comments arising from the open houses were considered in the development of the final management plan. Comments were categorized by section of the summary document (OMNR 1985c) or draft management plan (OMNR 1986a) to which they pertained. Within each section similar comments were collated. These were then evaluated in terms of their economic feasibility, pertinence to the subject, legal acceptability, social acceptability, consistency with fisheries management principles and policy, complexity, environmental impacts and administrative requirements.

1.8 TERMINOLOGY

Certain terminology used in portions of this plan may be unfamiliar to some readers. For clarification of the meaning, refer to the glossary in the last section of this document.

2.0 DISTRICT FISHERIES PERSPECTIVE

2.1 PHYSIOGRAPHY

Fish productivity is influenced by three factors: climate, geology of the watershed, and morphology of the lake basin. Climate regulates the amount of energy that is available for biological production. In Fort Frances District the growing season is normally 170–180 days.

The nutrient level of lakes reflect bedrock geology and soluble substrate of the watershed. In Fort Frances District the majority of lakes overlie volcanic/granitic areas of the Canadian Shield and have low to moderate nutrient levels.

The District is located entirely within the Superior Structural Province of the Precambrian Shield. The Wabigoon Subprovince, which underlies 95 percent of the District, is characterized by greenstone belts of volcanic and sedimentary rock with granitic intrusions. The Quetico Subprovince, located south of the Seine River is characterized by sedimentary rock.

Virtually all soils in the District are of glacial origin and are the result of four ice advances and inundation of the area by glacial lakes Agassiz I and Agassiz II. Based on glacial history, the District may be divided into two distinct areas; the western portion often referred to as the Rainy River Lacustrine Plain and; eastern portion of exposed bedrock of the Canadian Shield. The St. Lawrence-Great Lakes forest that covers this District represents a part of the extreme western edge of this forest region and can be considered unique.

Fort Frances District is located entirely within the secondary drainage basin of the Winnipeg River system. Part or all of three tertiary watersheds are located within District boundaries; the middle Rainy River basin (66 percent of the District), lower Rainy River Basin (17 percent) and Lake of the Woods (17 percent).

Lake morphology (basin depth and shape) acts as a modifying factor of climate and geology by determining the seasonal character of temperature and nutrient regimes. Lakes which are deep and regular in shape tend to be less productive than shallow irregularly shaped lakes.

2.2 FISHERIES RESOURCES

There are 3,240 lakes greater than ten hectares in size within the Fort Frances District with a total surface area of 233,200 hectares. Warmwater and coldwater lakes comprise 66 percent and 34 percent of the surface area respectively. Rainy Lake is the most prominent warmwater lake and represents 30 percent of the total lake surface area. Management responsibility for lakes lying along the District boundary is described in Appendix 3. In addition, there are four major rivers (Rainy, Seine, Turtle and Trout) which contribute significantly to the District fisheries potential.

The major fish species inhabiting lakes and rivers within the District are black crappie, lake sturgeon, lake trout, lake whitefish, muskellunge, northern pike, smallmouth bass and walleye.

The total allowable yield of all fish species from all waterbodies within the District is estimated at 626,700 kg/yr (Table 1). Rainy Lake is estimated to produce 190,500 kg of fish annually or 30 percent of the total District allowable yield. Approximately 60 percent of the allowable yield consists of walleye, northern pike, muskellunge, lake trout, black crappie and smallmouth bass.

2.3 CURRENT AND PROJECTED RESOURCE USE

Key users of the fisheries resources in the Fort Frances District are as follows (arranged in alphabetical order):

(i) anglers — resident of Ontario
- non-resident of Ontario;

(ii) commercial fishermen (bait);

(iii) commercial fishermen (food); and

(iv) Indian people (subsistence harvest).

2.3.1 ANGLERS

Data for Rainy Lake make the distinction between non-residents who have a base of operation in Ontario (i.e. own property or use established tourist facilities) and those who do not (day-trippers). Data for other District lakes do not have this degree of resolution and only make the distinction between residents and non-residents.

Fish species sought by resident and non-resident anglers are walleye, northern pike, muskellunge, lake trout, black crappie and smallmouth bass. The most preferred warmwater and coldwater species are walleye and lake trout respectively.

The total angler harvest of sport fish from Rainy Lake was estimated at 73,400 kg in 1984 (Table 1). Non-residents accounted for 86 percent (63,500 kg) of this harvest. Of the non-resident harvest, non-Ontario based (day-trippers) and Ontario based non-residents accounted for 45 percent and 41 percent of ther harvest represented 50 percent of

TABLE 1: CURRENT HARVEST LEVELS BY USER GROUP, FORT FRANCES DISTRICT

LAKE/BASIN	SPECIES	NATIVE SUBSIST. HARVEST (KG/YR)	SPORT HARVEST (KG/YR) RES.	SPORT HARVEST (KG/YR) NON-RES.	COMMERC. HARVEST (KG/YR)	TOTAL HARVEST (KG/YR)	ALLOW. YIELD (KG/YR)
RAINY LAKE - N. ARM	WALLEYE	6300	300	2400	6610	15610	26800
	N. PIKE/MUSKEL.	6300	1600	11800	28347	48047	20400
	WHITEFISH	6300			6136	12436	20400
	SM BASS	1000	700	4900		6600	
	SM BASS/CRAPPIE						29000
	CRAPPIE	1000	200	1500	7541	10241	
	Y. PERCH						10700
	TOTAL	20900	2800	20600	48634	92934	107300
RAINY LAKE - S. ARM	WALLEYE		3100	19400	8332	30832	15500
	N. PIKE/MUSKEL.		1400	8800	7156	17356	11800
	WHITEFISH				18182	18182	11800
	SM BASS		200	1400		1600	
	SM BASS/CRAPPIE						16800
	CRAPPIE		100	600	600	1300	
	Y. PERCH						6200
	TOTAL		4800	30200	34270	69270	62100
RAINY LAKE - REDGUT BAY	WALLEYE		1300	7200		8500	5300
	N. PIKE/MUSKEL.		500	2700	1000	4200	4000
	WHITEFISH				2600	2600	4000
	SM BASS		100	500		600	
	SM BASS/CRAPPIE						5700
	CRAPPIE		400	2300	3182	5882	
	Y. PERCH						2100
	TOTAL		2300	12700	6782	21782	21100
RAINY LAKE - TOTAL	WALLEYE	6300	4700	29000	14942	54942	47600
	N. PIKE/MUSKEL.	6300	3500	23300	36503	69603	36200
	WHITEFISH	6300			26918	33218	36200
	SM BASS	1000	1000	6800		8800	
	SM BASS/CRAPPIE						51500
	CRAPPIE	1000	700	4400	11323	17423	
	Y. PERCH						19000
	TOTAL	20900	9900	63500	89686	183986	190500
DISTRICT LAKES - (EXCL. RAINY L.)	LAKE TROUT		7100	37900		45000	30100
	WALLEYE	6300	17300	117700	2156	143456	92400
	N. PIKE/MUSKEL.	6300	9800	65500	1394	82994	95900
	WHITEFISH	6300			18185	24485	34400
	SM BASS	1000	5900	39100		46000	
	SM BASS/CRAPPIE						41700
	CRAPPIE	1000				1000	
	Y. PERCH						21500
	TOTAL	20900	40100	260200	21735	342935	316000
ALL DISTRICT LAKES	LAKE TROUT		7100	37900		45000	30100
	WALLEYE	12600	22000	146700	17098	198398	140000
	N. PIKE/MUSKEL.	12600	13300	88800	37897	152597	132100
	WHITEFISH	12600			45103	57703	70600
	SM BASS	2000	6900	45900		54800	
	SM BASS/CRAPPIE						93200
	CRAPPIE	2000	700	4400	11323	18423	
	Y. PERCH						40500
	TOTAL	41800	50000	323700	111421	526921	506500

* MUSKEL. - MUSKELLUNGE, SM BASS - SMALLMOUTH BASS

TABLE 2: CURRENT AND PROJECTED USE BY SPECIES, FORT FRANCES DISTRICT

LAKE/BASIN	SPECIES	CURRENT USE (ALL USER GROUPS) (KG/YR)	* PROJECTED USE TO YEAR 2000 (ALL USER GROUPS) (KG/YR)	ALLOWABLE YIELD (KG/YR)
RAINY LAKE	WALLEYE	54942	56342	47600
	NORTHERN PIKE/ MUSKELLUNGE	69603	71003	36200
	WHITEFISH	33218	34618	36200
	SM BASS	8800	9000	
	SM BASS/CRAPPIE			51500
	CRAPPIE	17423	17623	
	YELLOW PERCH			19000
	SUBTOTAL	183986	188586	190500
DISTRICT LAKES (EXCL. RAINY L.)	LAKE TROUT	45000	54400	30100
	WALLEYE	143456	181456	92400
	NORTHERN PIKE/ MUSKELLUNGE	82994	106594	95900
	WHITEFISH	24485	25885	34400
	SM BASS	46000	57700	
	SM BASS/CRAPPIE			41700
	CRAPPIE	1000	1200	
	YELLOW PERCH			21500
	SUBTOTAL	342935	427235	316000
ALL DISTRICT LAKES	LAKE TROUT	45000	54400	30100
	WALLEYE	198398	250700	140000
	NORTHERN PIKE/ MUSKELLUNGE	152597	190500	132100
	WHITEFISH	57703	86308	70600
	SM BASS	54800	66700	
	SM BASS/CRAPPIE			93200
	CRAPPIE	18423	18823	
	YELLOW PERCH			40500
TOTAL		526921	667431	506500

* PROJECTED INDICATES THE EXTENT OF HARVEST THAT WILL OCCUR UNDER CURRENT MANAGEMENT PRACTICES.

the annual sport fish harvest from Rainy Lake. Angler-days generated by resident and non-resident anglers in 1984 were 8,928 and 55,301 respectively.

On Rainy Lake resident angling effort (angler-days) and harvest are expected to remain at 1984 levels to the year 2000 (Table 2). This projection assumes no change in current fisheries management policies, practices or legislation. Similarly, non-resident effort and harvest are expected to remain stable to the year 2000. This projection takes into account the Daily Angling Validation Tag program which may have a stabilizing effect on non-resident numbers.

The total angler harvest of sport fish from District lakes other than Rainy Lake was estimated to be 300,300 kg in 1984 (Table 1). Non-resident anglers accounted for approximately 87 percent (260,200 kg) of this harvest. Data are insufficient to distinguish Ontario based and non-Ontario based non-residents. Angler harvest of sport fish represents 97 percent of the total annual harvest of sport fish from District lakes.

On District lakes other than Rainy Lake, resident angling effort (angler-days) and harvest are expected to remain stable to the year 2000. Non-resident effort is expected to increase by 25 percent based on trends in past effort data (Provincial Angler Surveys). Non-resident harvest is expected to increase from 260,200 kg/yr to 339,900 kg/yr (OMNR 1985c)(Table 2).

The tourist industry is extensively developed on most large lakes within the District with non-residents being the primary clientele. There are currently 77 commercial lodges operating in the District with guest capacities ranging from 20 to 60 persons per lodge. Rainy Lake currently supports 19 of the 77 commercial lodges. There are 96 outpost camps distributed among 46 lakes across the District in addition to 409 registered commercial boat caches on other lakes.

2.3.2 COMMERCIAL FISHING (BAIT)

There are currently 107 baitfish blocks in the Fort Frances District. In 1984 these blocks were held by 56 licensees.

The average reported baitfish harvest for the period 1978 to 1984 was 242,521 dozen (OMNR 1985c). Since non-resident angling effort on District lakes is expected to increase by 25 percent to the year 2000, the demand for baitfish is expected to increase to 270,250 dozen. The projected baitfish harvest assumes current angler use is related and will remain constant at 0.5 dozen per angler-day.

2.3.3 COMMERCIAL FISHING (FOOD)

In 1985, ten waterbodies were commercially fished in the Fort Frances District. Species harvested include walleye, northern pike, lake whitefish, lake sturgeon, and black crappie. White suckers, lake herring, yellow perch and burbot are taken incidentally but the harvest of these species can be substantial.

Commercial harvest of sport fish from Rainy Lake and other District lakes totalled 62,768 kg and 3,550 kg in 1984 respectively (Table 1). Commercial harvest of sport fish from Rainy Lake and other District lakes represented 41 percent and 1 percent of the total annual District sport fish harvest respectively. Commercial fishing on District lakes is expected to remain stable to the year 2000 (OMNR 1985c). The Rainy Lake commercial fishery is in the process of being reduced on a willing seller-willing buyer basis.

2.3.4 INDIAN SUBSISTENCE HARVEST

Of the 13 reserves located in the Fort Frances District only seven are inhabited, with the Indian population totalling 2,336 (OMNR 1985d). Approximately 50 percent of the District Indian population relies on Rainy Lake to satisfy subsistence needs. Other waterbodies used regularly for subsistence fishing include Rainy River, Manomin River and Seine River.

Indian people are estimated to harvest 41,800 kg of sport fish per year from Rainy Lake and other District lakes (Table 1). Subsistence harvest of sport fish represent nine percent and five percent of the total annual sport fish harvest from these waterbodies. Due to projected increases of five percent a year in the Indian population, subsistence harvest of sport fish from Rainy Lake and other District lakes is expected to increase to 87,210 kg per year by the year 2000 (OMNR 1985c)(Table 2). The projected subsistence harvest assumes an individual fish consumption rate of 18 kg/yr per individual with 50 percent of the harvest from Rainy Lake.

2.4 NON-FISHERIES INFORMATION

Fish production and the use of fisheries resources in the Fort Frances District are influenced by a number of developments and land use practices. Agricultural activities and associated developments such as drainage ditches are concentrated in the western half of the District. As these land use activities become common practice, maintaining quality fish habitat will require additional effort to minimize the effects of sedimentation, erosion, pollution and physical disruptions such as drainage ditches and culverts.

For timber management purposes the District is divided into the Manitou Forest, Seine River Forest, Rainy Lake and Rainy River timber management units.

The Manitou Forest and Seine River Forest units are licenced under forest management agreements (FMA's) with Boise Cascade of Canada Ltd. The Rainy Lake and Rainy River units are Crown management units. Timber harvest and associated road development is active District wide which provides direct or indirect access to most lakes.

Water levels on Rainy Lake are controlled by a hydroelectric dam at Fort Frances. Water inflow to Rainy Lake is regulated by a series of control dams on the Seine River, Big Canoe River, Footprint River, Big Turtle River, Kettle Falls, One Mile Lake, Esox Lake, Burditt Lake and Pipestone Lake. Unnatural water level fluctuations as well as stable water levels can have varying effects on fish habitat.

Crown land camping restrictions affecting non-residents are enforced in Fort Frances District to stimulate the tourist industry by directing visitors to established tourist facilities. This program also serves to limit non-resident angling effort in areas where sport fish harvest is considered high. In addition, non-resident anglers that do not have an Ontario base of operation (day-trippers) are required to purchase a Daily Angling Validation Tag for the Ontario portion of Rainy Lake and Rainy River.

2.5 OVERVIEW

Current and projected demand for fisheries resources by all user groups in the Fort Frances District exceed the ability of District waters to produce fish on a sustained yield basis (Table 2). As a result, fishing quality has declined District-wide. Lake trout are a concern due to their limited ability to withstand the elevated harvest levels occurring in most coldwater lakes. Overharvest of walleye, northern pike and muskellunge is extensive and could precipitate stock collapse in some situations. The most prominent example is the North Arm of Rainy Lake where walleye no longer provide quality angling.

i) Quality Fishing Opportunities

It is apparent that fisheries management will require a multi-faceted approach to ensure long-term provision of fish and quality fishing opportunities. In order to enhance fishing quality, there is a need to modify expectations. Fish stocks are managed on the concept of allowable yield. In the Fort Frances District this implies a need to balance harvest with resource capabilities. Much more emphasis on the recreational aspects of fishing is required so that anglers limit their catch rather than catch their limit.

Reduced harvest does not necessarily mean a reduction in quality angling opportunities. Quality may be measured in terms of larger fish, high levels of catch-and-release or angling for a variety of fish species. Smallmouth bass, black crappie, yellow perch and whitefish can be fished to a greater extent across the District. Quality is also a reflection of maintaining a variety of fishing experiences. Resident anglers could be provided with different types of angling opportunities such as road accessible angling on Rainy, Cuttle or Eltrut Lakes compared to remote experiences found near Otukamamoan and Manitou Lakes.

ii) Conflicts Among Users of the Fisheries Resources

User conflicts are most intense when competition for limited fish stocks lead to fisheries of poor quality. Excessive harvest pressure on District lakes is partly related to road access created by timber extraction and the philosophy of anglers that road access, once created, should be maintained for their use. The tourist industry, however, believes roads provide unlimited access to resident and non-resident anglers that threaten both fish stocks and tourism businesses.

The Fort Frances District maintains that if fishing quality is enhanced then conflicts among resource users will be reduced. Management efforts, therefore, will be intensified and strive to balance the diversity of opportunities with demand so that all users have an appropriate level of access.

iii) Environmental Quality

The maintenance of quality fish habitat is an important requirement for ensuring fish and fishing opportunities District-wide. Habitat concerns continue to be a consideration in all resource development proposals. There is some indication, however, that aquatic environments have been altered. Reasons for these habitat changes vary across the District. Water level manipulation, shoreline subdivisions and other developments, agriculture practices and timber harvest are activities that occur throughout the entire Fort Frances District. Habitat rehabilitation efforts will be required in some locations such as Rainy Lake, Rainy River and Burditt Lake.

iv) Public Involvement and Fisheries Management Information

All user groups have a responsibility to share in the management of fisheries resources to achieve management objectives. Where tourism and resident angling co-exist, resource management plans require input from both parties to develop mechanisms that protect tourism values as well as provide angling opportunities for resident anglers. The public should be made aware of the sensitivity of fish habitat and the legal obligations that must be met before doing work near water.

Similarly, fisheries managers have an incomplete understanding of new or refined harvest management

techniques, user group requirements and business needs. There is a need to improve resource data and develop the mechanisms to monitor and evaluate new management techniques. Information exchange will be required to provide resource users with information regarding the success of new initiatives and their acceptance and to provide direction for future management. Public understanding and co-operation will be essential for the achievement of fisheries management strategies and tactics described in this plan.

3.0 FISHERIES MANAGEMENT DIRECTION

3.1 INTRODUCTION

A broad fisheries management objective was broken down into three specific management considerations in the District Land Use Planning exercise: sport fish, commercial fish and lake trout. Associated with each are management targets which outline the user demands to be satisfied. The fisheries management plan works within the framework of the objective using resource information to refine the targets and set out strategies and tactics to achieve them.

3.2 BROAD FISHERIES MANAGEMENT OBJECTIVE

The broad fisheries management objective for Northwestern Ontario is to protect, rehabilitate, enhance and maintain fish communities and their environment, to provide an optimum contribution of fish, fishing opportunities and associated benefits to society (OMNR 1980).

The broad objective summarizes general direction for fisheries management in the Fort Frances District. Management principles inherent in this objective include:

- use of available knowledge to manage fisheries efficiently and relieve conflicting uses of the environment;
- maintain and where necessary, rehabilitate aquatic environments;
- prevent overfishing by monitoring fish populations and adjusting harvest accordingly;
- provide for the optimum mix of benefits while maintaining balanced fish communities;
- expand our knowledge regarding resource inventory and the effects of new management techniques;
- develop public awareness of fisheries, their values and management techniques;
- encourage public participation in maintaining quality fisheries by providing technical advice and encourage involvement in volunteer programs and innovative management programs; and
- enforce fisheries regulations consistently, equitably and effectively.

The broad objective will be addressed through three general strategies consistent with fisheries management principles:

i) enhance public education;

ii) establish fisheries management zones; and

iii) develop specific fisheries management objectives.

3.3 PUBLIC EDUCATION

Public education and involvement are important elements to achieve fisheries management objectives. As new approaches are required to address fisheries management, public participation will be more complete if information is exchanged and a common base of knowledge is established.

Tactics to be used for public education and participation in fisheries management will include:

- extension services to provide technical expertise and advice to users who wish to develop special management actions to ensure fishing quality;
- provide the general public with more information regarding new fisheries management techniques and fisheries resources through seminars, brochures, newspaper articles, workshops and other means;
- increase public participation and consultation in the development of fisheries management actions;
- increase public participation in direct management programs through government sponsored programs (Community Fisheries Involvement Program (CFIP))and volunteer initiatives; and
- ensure that co-operative education courses emphasize fisheries management concepts, principles and techniques.

3.4 FISHERIES MANAGEMENT ZONES

The entire Northwestern Region has been subdivided into Fisheries Management Zones (FMZ) based on ecological differences, current use patterns, similar problems, issues and accessibility. In the Fort Frances District, nine Fisheries Management Zones (FMZ) have been developed to assist in the application of resource management tactics (Fig.4). The management intent for each FMZ described below is zone specific. To achieve management intent, unique management actions may be introduced within a zone, some of which may be legislative in nature. In addition, zones serve as a logical basis for systematic data collection related to the resource, species harvest, angler origin and angling pressure.

Crown land cottage subdivisions may increase in the future but this plan does not identify additional lakes

for this type of development. Rather, those lakes identified in the Fort Frances District Land Use Guidelines (DLUG) for Crown land cottaging will be investigated further to determine the potential for additional cottages.

FMZ 1 Western Agricultural

Description

The area covered by this zone is primarily agricultural land. No lake trout lakes and only six warmwater lakes are located here. Commercial tourism development and one provincial park are located on Caliper Lake. The most prominent fisheries resource in this Fisheries Management Zone (FMZ) is baitfish.

Management Intent

a) Manage for optimum baitfish production.

The majority of public waters in this FMZ consist of rivers, creeks and ponds that are all warmwater and support a well developed baitfish industry. Management efforts will be directed at maintaining an exclusive block licencing system for the commercial harvest of baitfish. Baitfish production by means of aquaculture programs will also be encouraged.

b) Manage to enhance the quality of warmwater fisheries.

Three significant warmwater fisheries, Caliper, Boffin and Wasaw Lakes, have experienced heavy angling pressure over time. Angling quality in these lakes has declined. Fish populations that are harvested within allowable yield typically provide fisheries of good quality. Management tactics will attempt to bring harvest to within the limits of allowable yield.

c) Manage to maintain existing tourism opportunities.

Commercial tourism development occurs on Caliper Lake. This entire zone will be managed for existing tourism opportunities because fisheries resources are fully committed. New developments based on the consumptive use of fish will not be permitted in this Fisheries Management Zone (FMZ).

FMZ 2 Pipestone Lake

Description

This area consists of both cold and warmwater fisheries that are important to local residents and the tourist industry for angling opportunities. Cottage subdivisions and tourist industry development occur on the majority of lakes. One commercial fishing licence for whitefish exists in this zone. Road access is well developed in the south and expanding in the north. Angling pressure in general is considered high.

Management Intent

a) Manage to enhance the quality of cold and warmwater fisheries.

Harvest of lake trout and walleye in excess of allowable yield has led to a decline in angling quality. Improving these fisheries will require a reduction in harvest by all users.

b) Manage to maintain existing angling opportunities for residents and tourism based non-residents.

Resident and Ontario based non-resident anglers will be the main users in this zone. A reduction in harvest will be required by non-resident Crown land campers and non-resident day-trippers.

c) Manage to maintain existing tourism opportunities.

This zone will be managed to provide for existing tourism opportunities. Fisheries resources in this area are fully committed at the present time and future tourism expansion proposals will be considered only when the harvest of targeted species can be balanced by allowable yield. Once harvest is aligned with allowable yield, new proposals will be considered on a case-by-case basis. This is consistent with the Fort Frances District Land Use Guidelines.

FMZ 3 Lawrence/Manitou Lakes

Description

The area included in this Fisheries Management Zone (FMZ) contains the majority of District lake trout lakes and extends into the southern part of the Dryden District and eastern portion of the Kenora District. In the Fort Frances District, commercial tourism is well developed and provides remote angling experiences. Roads for resource extraction are rapidly expanding and provide access to previously inaccessible waterbodies. Commercial fishing for whitefish is active on Lower Manitou and Esox Lakes and no Crown land cottage subdivisions are located in this zone.

Management Intent

a) Manage to enhance the quality of cold and warmwater fisheries.

The expanding road network and associated increase in angler numbers is leading to high harvest pressure and a decrease in angling quality on some lakes in this zone. A reduction in harvest will be necessary across the area. Quality angling experiences may be enhanced by applying special regulations to specific

lakes in an effort to ensure the continuation of trophy opportunities.

b) Manage to maintain existing angling opportunities for residents and tourism based non-residents.

Lake productivity is low in this zone and more equitable harvest distribution will prevent a drop in angling quality, particularly on small lake trout lakes. Currently, a large proportion of the annual angling harvest from this zone is contributed by non-resident campers and day users. Harvest by these groups must be reduced. Some areas of this zone will be maintained as remote opportunities to provide a mix of angling experiences as well as protection of remote tourism businesses.

c) Manage to maintain existing tourism opportunities.

Fisheries resources in this zone are fully committed at the present time and future proposals for tourism expansion will be considered only when the harvest of target species can be balanced by allowable yield. Once harvest is brought within the level of allowable yield, new proposals will be considered on an individual case basis. Management will be directed at maintaining low-density recreational angling experiences.

FMZ 4 Weller Lake

Description

Mainly warmwater fisheries are present in this zone but some lake trout lakes also occur. No tourism establishments exist in the area but angling effort and harvest is high. Day-use and Crown land camping by non-resident anglers contribute significantly to annual harvest. Cottage subdivisions exist on some lakes with potential for expansion of this land use activity. There is road access to most lakes.

Management Intent

a) Manage to enhance the quality of cold and warmwater fisheries.

Fishing pressure has traditionally been high in this management zone due to the well developed road network and short driving distance from the population centres of Fort Frances and International Falls. Angling quality for walleye, northern pike and lake trout has been depressed for the past several years. Management efforts in this zone will require a reduction in the level of harvest and the introduction of user controls.

b) Manage to increase resident angling opportunities while maintaining angling opportunities for tourism based non-residents.

Road access, cottage subdivisions and close proximity to the town of Fort Frances combine to provide good opportunities for resident anglers. The largest user group in this area however, are non-resident day-users and campers. Future management will attempt to control harvest by this user group while expanding resident opportunities.

c) Manage to maintain existing tourism opportunities.

The tourist industry makes use of fisheries in this zone on a day-use basis to provide a diversity of angling experiences for their guests. Boat caches represent the only investment the industry has in this area. Fisheries management will remain consistent with the Fort Frances District Land Use Guidelines by maintaining existing tourism opportunities and will not permit new investment in this zone.

FMZ 5 Otukamamoan Lake

Description

Cold and warmwater lakes are present in this zone which support a well developed tourist industry. Resident anglers enjoy remote angling experiences as this area is largely inaccessible by road outside of the Highway 502 corridor. Cottage subdivisions exist on one warmwater lake. In general, angling pressure varies between moderate to high depending on the individual lake.

Management Intent

a) Manage to enhance the quality of cold and warmwater fisheries.

There is indication of a downward trend in angling quality on some important lakes in this zone. Quality angling may be restored by reducing harvest to allowable yield levels. Special regulations will be applied to some specific locations, such as Otukamamoan Lake, to develop and maintain trophy angling opportunities. Quality will also be provided by maintaining a low angler density recreational environment.

b) Manage to maintain existing angling opportunities and for residents and tourism based non-residents.

This zone currently provides a mix of angling opportunities that range between road accessible to remote experiences. The intent of future management efforts will be to maintain these opportunities as road proposals for resource extraction are developed.

c) Manage to maintain existing tourism opportunities.

Fisheries resources in this area are fully committed at the present time and future tourism expansion proposals will be considered only when the harvest of targeted species can be balanced with self-sustaining populations. Fisheries management will strive to maintain the remote nature of the angling experience. As harvest levels are brought within limits of allowable yield, expansion or new development proposals will be considered on an individual lake basis. This is consistent with the Fort Frances District Land Use Guidelines which recognize that resources in this zone are completely committed.

FMZ 6 Turtle River

Description

This Fisheries Management Zone (FMZ) contains primarily warmwater lakes with two lake trout lakes. These fisheries support a well developed tourist trade and are becoming increasingly important for resident angling opportunities. Road construction is increasing as resource extraction activities expand. Cottage subdivisions have been developed from patented mining claims and Crown land developments on two of the larger lakes. This zone also contains the recommended Turtle River Waterway Park. Angling pressure is considered high and the quality of the experience is decreasing.

Management Intent

a) Manage to enhance the quality of cold and warmwater fisheries.

The quality of angling has been decreasing over time and in part is associated with the development of road access. Under different management actions, this area can provide quality angling opportunities if harvest is brought into line with allowable yield. Future management will be directed toward a reduction in the level of harvest.

b) Manage to maintain existing angling opportunities for residents and tourism based non-residents.

Access to fishing opportunities is well established through tourism and cottage subdivision development. Residents have traditionally enjoyed the variety of angling experiences (remote and road accessible) provided in this Fisheries Management Zone (FMZ) and future management actions will strive to maintain this diversity.

c) Manage to maintain existing tourism opportunities.

Tourism developments cater to both road accessible and remote experiences. Fisheries resources in this area are fully committed at the present time and future tourism expansion proposals will be considered only when the harvest of targeted species can be balanced by allowable yield. This is consistent with the Fort Frances District Land Use Guidelines.

FMZ 7 Rainy Lake

Description

This management zone includes Rainy and Namakan Lakes in the Fort Frances District and lakes along the International Boundary in the Atikokan District of the North Central Region. Rainy Lake is the largest warmwater lake in the District and is shared with the state of Minnesota. On the Ontario side, Rainy and Namakan Lakes support commercial fishing, tourism, Indian subsistence fishing, resident angling and non-resident day-use from the state of Minnesota. Access is unrestricted. Harvest is considered very high with walleye populations demonstrating signs of stress in all but the southern basin of Rainy Lake and Namakan Lake. New fish species have been introduced and fish communities appear unstable. Changes in critical fish habitat have been recently identified in Rainy Lake.

Management Intent

a) Manage to enhance the quality of the warmwater fishery.

This zone will be managed to provide a quality warmwater fishery with particular management efforts directed toward restoring the walleye stocks in Rainy Lake. Stresses contributing to depressed fish populations are varied and include overharvest, habitat degradation, exotic species introductions, fluctuating water levels and changes to the fish community structure. Each of these will be addressed over the 20 year planning period.

b) Manage to maintain existing angling opportunities for residents and tourism based non-residents.

Residents have traditionally enjoyed access to angling activities by nature of cottage subdivisions and the location of the Town of Fort Frances on the shores of Rainy Lake. The majority of sport fish harvest in this zone is taken by non-residents on a day-use basis. Given the resource conservation issue at this time, harvest by some user groups will be limited in an effort to reduce total harvest to within allowable yield limits. Additional cottage subdivisions will be considered, but fisheries concerns will continue to be part of the planning process.

c) Manage to maintain existing tourism opportunities.

Fisheries management in this zone will be for the maintenance of existing tourism opportunities. During the next 20 years, management efforts will focus on restoration of the fisheries. The Rainy Lake resources are fully committed at the present time and future proposals for tourism expansion will be considered only when the harvest of targeted species can be balanced by allowable yield. When the resource conservation issue is resolved, proposals for expansion will be considered on an individual case basis.

FMZ 8 Lake of the Woods (Rainy River)

Description

Rainy River is continuous with Lake of the Woods as far upstream as the hydroelectric dam in Fort Frances and is included with the Lake of the Woods Fisheries Management Zone. This warmwater river is transversed by the Canadian-American International Boundary. Agriculture is the main land use activity on the north shore of the river. Tourism development exists near the river mouth on the shores of Lake of the Woods. Sport fish harvest is considered moderate although concentrated in some areas during different times of the year. One commercial fishery for lake sturgeon is located at the Manitou/Long Sault Rapids. A more complete description of fisheries management in this zone may be found in the Kenora District Fisheries Management Plan.

Management Intent

a) Manage to enhance the quality of the warmwater fishery.

Fish populations have been shown to intermix between the river and Lake of the Woods. The management intent for Lake of the Woods will, therefore, apply to Rainy River. The river provides important habitat for crucial life history stages of these fish populations. Monitoring the quality of fish habitat will continue to be an important management activity over the course of the planning period.

b) Manage to maintain resident angling opportunities.

Resident anglers harvest fish from the entire length of the river and management will attempt to maintain existing opportunities. Angling quality is related to the status of fish populations and harvest will be maintained within the limits of allowable yield.

c) Manage to maintain existing tourism opportunities.

Fisheries resources in this zone are fully committed at the present time and future tourism proposals will be considered only when the harvest of targeted species can be balanced by allowable yield.

FMZ A-3 Atikokan District

Description

This Fisheries Management Zone (FMZ) lies primarily within the Atikokan District of the North Central Region, but encompasses a group of coldwater lakes near the District border. Management responsibilities for these lakes remain with the Fort Frances District. The area maintains a well developed tourism infrastructure as well as providing resident anglers with remote angling opportunities. Two commercial whitefish fisheries are located in this zone. A more complete description of this area and management intent may be found in the Atikokan District Fisheries Management Plan.

Management Intent

a) Manage to maintain the quality of cold and warmwater fisheries.

Fisheries productivity is generally low in this zone and maintaining quality angling opportunities will require a harvest level consistent with allowable yield. In the Atikokan District, this area has recently been accessed by road and access to the numerous small lake trout lakes has caused some concern regarding the maintenance of quality angling. In the Fort Frances District, access to these lakes developed as resource extraction activities expanded.

b) Manage to maintain existing angling opportunities for residents and tourism based non-residents.

This area provides remote angling experiences that have been traditionally used by residents and non-residents using services of the tourism industry. Fisheries management will maintain this type of experience which may require the introduction of some form of user control.

c) Manage to maintain existing tourism opportunities.

Fisheries resources are fully committed in this area at the present time and future tourism expansion proposals will be considered only when harvest of the target fish species can be balanced by allowable yield. Fisheries management in the zone will strive to maintain low angler density and provide a remote experience. Once harvest is maintained below allowable yield levels, expansion proposals will be considered on a case-by-case basis.

3.5 SPECIFIC FISHERIES MANAGEMENT OBJECTIVES, TARGETS, STRATEGIES AND TACTICS

This section describes the strategies and tactics that will be used to achieve specific management objectives and targets. Associated with each target is a discussion of the problems and issues that must be solved by the management actions to achieve the target and overall objective. Following the statement of strategies and tactics is a discussion of the rationale for their adoption into the plan. Discussions deal with public comments from the open houses.

3.5.1 LAKE TROUT

3.5.1.1 MANAGEMENT OBJECTIVE

To maximize high quality recreational fishing opportunities while maintaining self-sustaining populations.

Lake trout, although normally considered sport fish, have been given special consideration in the Fort Frances District Land Use Guidelines and this Fisheries Management Plan due to their sensitivity to harvest and habitat changes. Management direction across the District will be to provide high quality angling opportunities. This objective recognizes the importance of maintaining self-sustaining populations and implies a need to reduce harvest levels to or below allowable yield as well as preserving habitat quality.

3.5.1.2 TARGETS

Harvest	**30,100 kg/yr**
Recreational Opportunities	**20,067 angler-days**

Both the harvest and opportunity targets represent refinements to the Fort Frances DLUG target statements. The harvest target is based on the allowable yield of lake trout. This value is considered the maximum harvest that can be allowed and still maintain quality angling opportunities.

The opportunity target is the minimum number of opportunities the District would like to achieve through the lake trout resource. Provided harvest remains within the limit of allowable yield, recreational angling opportunities can expand above the value indicated.

3.5.1.3 STRATEGIES AND TACTICS

Strategies and tactics that pertain to lake trout management are indicated in Figure 5.

PROBLEM/ISSUE 1

Angler harvest exceeds the capability of District lakes to produce lake trout.

STRATEGY

Enhance the quality of lake trout angling opportunities by reducing harvest to allowable yield for fish population maintenance and/or rehabilitation.

TACTICS

- reduce the daily catch and possession limit to two lake trout for all anglers; (ALL ZONES)
- develop trophy lake trout angling opportunities on selected lakes with a daily catch limit of one trout and a possession limit of two where only one fish may be greater than 65.0 cm (25.5 in) total length; (ZONES 3,5)
- require all non-residents of Canada who angle for lake trout (except property owners) to be accommodated at tourist establishments; (ALL ZONES)
- review all proposals for expansion of tourism capacity on an individual case basis; (ALL ZONES)
- work with tourist operators to reduce lake trout harvest and enhance trophy fishing opportunities; (ALL ZONES)
- implement a program to assess the harvest of lake trout and angling pressure distribution; (ALL ZONES)
- consider a lake trout tag system (annual creel limit) for non-resident anglers; (ALL ZONES)
- promote the use of alternate species such as northern pike, whitefish, yellow perch, black crappie and smallmouth bass; and (ALL ZONES)
- improve law enforcement efforts through development of a District enforcement plan; (ALL ZONES)

The above tactics were developed from general direction provided by various user groups. The main intent of these management actions is to reduce lake trout harvest to the level of allowable yield and to optimize economic return and quality angling opportunities. The District will manage lake trout solely as a recreational species.

Prior to the introduction of the Crown Land Recreation Program, data indicated that lake trout

harvest was too high. A positive step taken to reduce harvest and generate additional economic activity is the requirement that non-resident anglers wishing to fish for lake trout must have an Ontario base of operation.

The only exception will be non-residents who are in the company of an Ontario resident angler who can legally fish. The non-resident will be allowed to angle for lake trout but fish kept will be applied to the residents daily catch possession limit. This modification is the result of resident angler's concerns about not being able to go lake trout fishing with non-resident friends and relatives.

The requirement of non-resident anglers to be accommodated at an Ontario tourism establishment would preclude non-resident day-trippers from angling for lake trout. Should there be a need for greater harvest reduction in the future, the District intends to examine a non-resident annual creel limit. Annual creel limits are believed to be an effective harvest control mechanism because they would establish an upper level of lake trout harvest.

Anglers and the tourist industry perceive lake trout stocking as an alternative to harvest regulation. This tactic is applicable only where lake trout populations have collapsed. In the Fort Frances District, this situation does not occur. Management actions directed toward a reduction in harvest are an attempt to prevent this situation from developing. The daily catch and possession limit reduction from three to two lake trout is consistent with the intent to promote this resource for use in quality recreational experiences.

Artificial stocking of fish not normally found in this District provide angling opportunities for different fish species and may divert a limited amount of angling effort directed toward traditional fish such as lake trout and walleye. Annual stocking, however, is needed to maintain these fisheries as natural reproduction is not possible. The put-grow-and-take brook trout fishery in Hoard Lake will be maintained to provide alternate angling opportunities.

Smelt, on the other hand, have been shown to threaten natural fish populations and, therefore, quality angling opportunities. This fish has been recently established in some northwestern Ontario lakes and is currently expanding it's range in the Rainy Lake drainage basin. Management actions may be considered to limit their spread across the Northwestern Region.

In some Fisheries Management Zones (FMZ), angling quality will be enhanced by special trophy regulations that will require a change in angler perception.

Otukamamoan Lake in FMZ 5 has been recommended by different user groups to be designated as a trophy lake trout fishery. The daily catch limit will be one lake trout and for those anglers staying for an extended period of time, the possession limit will be two fish but only one may be greater than or equal to 65 cm (25.5 in) total length. The remote nature of this lake, high levels of catch-and-release and good probability of catching large fish combine to make this lake an excellent candidate for trophy fishing opportunities. This fisheries management plan reserves FMZ 3 for expansion of this management approach should it be successful on Otukamamoan Lake. Season manipulation has proven ineffective for widespread regulation of angler harvest and will not be used for this purpose in Fort Frances District. On a lake specific basis, however, where lake trout stocks are threatened by overharvest, season closure may be the most effective means of protection against fish stock collapse. The District will retain this option to be applied in specific situations.

The use of alternative species such as lake whitefish, northern pike and smallmouth bass received limited attention by the public. It should be stressed that the use of alternative species would help maintain angling opportunities while reducing pressure on lake trout resources. The tourist industry has an opportunity to share in the management responsibility to preserve quality angling experiences on lakes where they are the main users. Volunteer programs through camp policy could include bait restrictions, gear restrictions, camp specific possession limits, competitions for catch-and-release and prizes for alternative species.

The District recognizes that tourist facilities are extensively developed on lake trout lakes and resources are fully committed. In this regard, the District will remain consistent with DLUG and not permit new or expansion to existing establishments that involve additional consumptive use of lake trout resources. As harvest is reduced to reflect allowable yield over the course of the planning period, opportunities may be available for increased capacity. The use of Crown land as a development tool will be evaluated in terms of resource capabilities and economic contributions. Proposals will be considered on a case-by-case basis.

District efforts to reduce lake trout harvest will require pre- and post-assessment of the above tactics. In addition, the response of lake trout populations to these management initiatives require evaluation to determine if the desired effects are occurring. A sound data base will help in the selection of initiatives for fisheries management.

PROBLEM/ISSUE 2

Lake trout habitat must be protected to ensure long-term maintenance of self-sustaining populations.

STRATEGY:

Protect and/or rehabilitate critical lake trout habitat.

TACTICS:

- continue to provide input to timber management plans and other resource extraction or development proposals using the Guidelines For The Protection of Fish Habitat (OMNR 1987); (ALL ZONES)
- continue to enforce all pertinent acts and regulations related to fish habitat protection and co-operate with other agencies involved in environmental protection; (ALL ZONES)
- continue the lake survey program and expand data collection to include fish population and habitat assessment; and (ALL ZONES)
- rehabilitate lake trout habitat in situations where there is a confirmed need through the involvement of concerned group or individuals in the Community Fisheries Involvement Program (CFIP) and other MNR programs. (ALL ZONES)

The importance of critical lake trout habitat (spawning shoals, nursery areas, feeder streams etc.) to the long-term maintenance of self-sustaining populations is recognized. Protection of lake trout habitat is an underlying assumption of the tactics to reduce harvest and maintain stable populations.

Protection of lake trout habitat will continue through input to the timber management planning process and other development proposals using Guidelines For the Protection of Fish Habitat (OMNR 1987) with adjustments to accommodate local situations. Data needs, related to lake trout habitat, will continue to be satisfied through the lake survey program. The District intends to expand the existing program to include population assessment and quantify habitat characteristics. Emphasis will be placed on surveying small lakes suspected of being lake trout lakes in the vicinity of timber harvesting activities.

Although public comment did not identify lake trout habitat concerns, the tactic provides for such work if required in the future. The District will continue to encourage public involvement in fisheries management and will use the Community Fisheries Involvement Program (CFIP) to address fish habitat concerns.

PROBLEM/ISSUE 3

User conflicts occur where angling quality is reduced as a result of high harvest pressure and easy access to the fishery.

STRATEGY:

Minimize conflicts between and among user groups and other resource users.

TACTICS:

- continue to provide input and review to resource extraction or development proposals using Forest Management Guidelines for the Protection of Tourism Values (OMNR 1986c); and (ALL ZONES)
- control resource access road use to protect remote angling opportunities where it is consistent with other resource management plans and policies. (ALL ZONES)

In localized situations, there is evidence of conflicts between tourist operators and other anglers. Conflicts have developed in association with expanding timber access roads that provide a relatively unrestricted lake trout fishery. The tourist industry believes road access control is necessary to protect the remote nature of their operations and quality angling opportunities. Resident anglers believe that road access, once created, should be maintained for their use.

The natural character of the shoreline of lake trout lakes is an important component of the angling experience and is highly valued by the tourist industry. Timber harvest and other resource extraction activities can disrupt the natural character of shorelines.

This District recognizes the concerns related to access roads and is committed to maintaining a reasonable mix of values through such policies as the Access Road Planning Policy (OMNR 1985e), Forest Management Guidelines for the Protection of Tourism Values (OMNR 1986c) and the Integrated Resource Management Policy (OMNR 1986d). In FMZ 5, the District is prepared to increase the control of access road use to protect remote tourism values that currently exist. In other areas, such as Fisheries Management Zones (FMZ) 2,3,4,6 and A3, more control of access roads may be required to maintain low angler density. Remote high quality angling opportunities will continue to be available for residents.

Protection of the natural shoreline character will continue through application of the area of concern concept within the timber management planning process and Forest Management Guidelines for the Protection of Tourism Values (OMNR 1986c).

3.5.2 MUSKELLUNGE

3.5.2.1 MANAGEMENT OBJECTIVE

To maximize high quality recreational fishing opportunities while maintaining self-sustaining populations.

Muskellunge are very sensitive to exploitation and Fort Frances District intends to manage this species solely for the provision of recreational angling opportunities. The maintenance of self-sustaining populations is possible by keeping harvest below allowable yield and protecting quality habitat. Further, in recognition of the quality angling experience provided by this fish, muskellunge will be managed as a trophy species. This approach appears to provide the greatest economic and social benefits from a limited resource.

3.5.2.2 TARGETS

Targets have not been assigned for muskellunge due to the difficulty in estimating an allowable yield value or determining angling pressure. Regardless, muskellunge have been separated from other sport fish for species specific management initiatives. Management intent is to minimize harvest of this fish due to the limited number of lakes it inhabits, sensitivity to harvest and the need for more information on muskellunge biology.

3.5.2.3 STRATEGIES AND TACTICS

Strategies and tactics pertaining to muskellunge management are indicated in Figure 5.

PROBLEM/ISSUE 1

Muskellunge are sensitive to exploitation due to their few reproductive potential and low abundance.

STRATEGY:

Manage muskellunge as a trophy species.

TACTICS:

- require all non-residents of Canada who angle for muskellunge (except property owners) to be accommodated at tourist establishments; and
  (ALL ZONES)
- consider a muskellunge tag system that limits all anglers to two fish per year.
  (ALL ZONES)

Managing muskellunge as a trophy species is appropriate due to the limited number of lakes this fish inhabits. Muskellunge anglers are generally trophy specialists, travelling great distances to "hunt" this fish and practice conservation ethics by promoting catch-and-release. Provincial regulations have been modified to acknowledge the unique quality of muskie anglers and ensure this species continues to provide trophy angling opportunities.

Assessment of the newly introduced regulations (increased minimum size limits, daily limit of one fish and possession limit of two) will form part of the data collection efforts this District normally performs. Should future assessment indicate harvest levels have risen, consideration will be given to an annual creel limit or tag system. Similar to lake trout, the tag system would establish an upper limit on annual harvest to ensure natural reproduction can maintain populations.

The requirement of all non-resident muskellunge anglers to use the services of the tourist industry will encourage additional economic activity through this unique resource. Implementation of this tactic will be the same as for lake trout.

PROBLEM/ISSUE 2

Muskellunge habitat requires protection to ensure long-term maintenance of self-sustaining populations.

STRATEGY:

Protect and/or rehabilitate critical muskellunge habitat.

TACTICS:

- provide muskellunge habitat the same level of protection currently provided lake trout habitat; and
  (ALL ZONES)
- continue the lake survey program and expand data collection to include muskellunge habitat assessment.
  (ALL ZONES)

Muskellunge, like lake trout, are extremely sensitive to habitat disturbance. Muskellunge habitat, therefore, will be treated the same as critical lake trout habitat during the planning process for resource development proposals.

3.5.3 SPORT FISH

3.5.3.1 MANAGEMENT OBJECTIVE

To provide optimum social and economic benefits derived through sport fish use while maintaining self-sustaining populations.

In Fort Frances District the sport fish category includes walleye, northern pike, smallmouth bass, largemouth bass, black crappie and yellow perch.

Species specific management actions for lake trout and muskellunge have been addressed previously.

The above management objective acknowledges some inherent fisheries management principles. Maintenance of self-sustaining populations is interpreted as fish populations that are maintained by natural reproduction. Natural reproduction is maximized when harvest is at or below allowable yield. This condition allows for brood stock survival. Natural reproduction is also encouraged when the quality of the aquatic habitat is maintained. Finally, quality fisheries provide for the best mix of social and economic benefits.

3.5.3.2 TARGETS

Harvest	**394,600 kg/yr**
Recreational Opportunities	**333,050 angler-days**

Both the harvest and opportunities targets are refinements of the DLUG target statements for sport fish. The harvest target is the total allowable yield for walleye, northern pike, smallmouth and largemouth bass, black crappie and yellow perch from all District waterbodies, including Rainy Lake. The harvest target is considered the maximum harvest that can be allowed and still provide quality fishing opportunities.

The opportunities target is the minimum number of opportunities the District would like to achieve through sport fish resources. Provided harvest remains within the limits of allowable yield,

opportunities generated can expand above the value indicated. For this to occur, however, requires reduced emphasis on sport fish harvest.

3.5.3.3 STRATEGIES AND TACTICS

Strategies and tactics that pertain to sport fish management in the Fort Frances District are indicated in Figure 6.

PROBLEM/ISSUE 1

Current walleye and northern pike harvest exceed the levels of allowable yield on Rainy Lake and inland lakes.

STRATEGY:

Enhance the quality of sport fish angling opportunities by reducing harvest to allowable yield for sport fish population maintenance or rehabilitation.

TACTICS:

- possession of only one walleye greater than 50.0 cm (19.5 in) total length in a daily catch and possession limit of six fish; (ALL ZONES)
- possession of only one northern pike greater than 70.0cm (27.5 in) total length in a daily catch and possession limit of six fish; (ALL ZONES)
- possession of only one walleye over a maximum size and possible slot-size restrictions. Sizes to be determined from current data; (ZONE 7)
- review of the non-resident Daily Angling Validation Tag Program with specific consideration for expanding the program to other areas; (ZONES 2,3,4,5,6,7,8)
- establish fish sanctuaries to protect pre- and post-spawning walleye and northern pike; (ALL ZONES)
- develop additional walleye angling opportunities through adult transfers to lakes that presently do not contain walleye; (ZONES 3,4,5,6)
- develop additional black crappie angling opportunities through adult transfers to the Sawbill Lakes that do not contain crappie; (ZONE 5)
- rehabilitate collapsed walleye fisheries by increasing the rearing program to produce 100,000 fingerlings for rehabilitation; (ZONE 7)
- reduce the daily catch and possession limit of black crappie to 30 fish; (ALL ZONES)
- promote the use of alternate species such as smallmouth bass, black crappie, whitefish and yellow perch to divert angling pressure away from walleye and northern pike; (ALL ZONES)
- review all proposals for expansion of tourism capacity on a case-by-case basis; (ALL ZONES)
- improve law enforcement efforts through development of a District enforcement plan; (ALL ZONES)
- expand Crown land recreation restricted camping zones to include areas where there is a problem with high sport fish harvest by non-residents; and (ALL ZONES)
- implement a program to systematically assess sport fish harvest and distribution of angling pressure. (ALL ZONES)

District data suggest that walleye and northern pike harvest levels are too high. Public comments support these observations by indicating a decline in angling quality in every Fisheries Management Zone in the Fort Frances District. The most prominent example is Rainy Lake where the walleye population has collapsed in the North Arm and requires rehabilitative management efforts. Angling opportunities are also threatened in Red Gut Bay where the status of the walleye population closely parallels the North Arm decline. In an effort to enhance the quality of recreational angling, a reduction in the current level of harvest is needed across the District.

Restricting the possession of walleye and northern pike to only one fish greater than a maximum-size (walleye 50.0 cm; northern pike 70.0 cm) serves several purposes. Total harvest in weight will be reduced by preventing anglers from selectively keeping larger individuals. Harvest will be directed toward the smaller, immature fish that represent the greatest potential for biological production. Brood stock survival will be increased so they may spawn and contribute to natural reproduction. A catch-and-release philosophy will be encouraged. Finally, the abundance of large fish will be increased and would provide a greater number of anglers the opportunity to catch a big fish.

The initial size introduced by this plan may not serve biological requirements for all zones, but represents a starting point established through public comments. For Fisheries Management Zones (FMZ's) that require more intensive management, like Rainy Lake, the District intends to review the data before suggesting a maximum-size limit for walleye. It should be noted that slot-sizes are also being considered for Rainy Lake. Under this type of harvest regulation, fish caught that are within a specified size range must be returned to the water. The size range determined will protect the mature adult fish in the population.

Non-resident anglers make the most significant contribution to annual sport fish harvest in the Fort Frances District. Of particular concern is the non-Ontario based non-resident day-tripper who is believed to contribute a relatively small amount to the Ontario economy and yet kills substantial numbers of fish. On the Canadian portion of Rainy Lake alone, non-resident day-trippers were responsible for nearly one half of the sport fish harvest in 1986.

It is the intention of this District to remain consistent with the philosophy of the Crown Land Recreation Program and the non-resident Daily Angling Validation Tag Program. The Daily Angling Validation Tag Program offers a more direct method of manipulating harvest and effort. In addition, management intent for specific zones may be better achieved by expanding this program to other areas of the District.

Crown Land Restricted Camping Zones may also be expanded in areas of high angling pressure and harvest. It would appear that non-resident Crown land campers are responsible for the majority of harvest on selected lakes in FMZ 3 and FMZ 4.

The public proposed several tactics to reduce the selective harvest of mature fish. There was some consistency in suggestions for earlier closure of the walleye season to protect mature fish moving to spawning areas.

This District is concerned that season changes would induce a reduction in angling opportunities for resident anglers as well as restrict the operating season for the tourist industry. Rather, protection for mature walleye will be provided through implementation of the maximum-size limit indicated above. In addition, sanctuaries will be established on known walleye and northern pike spawning areas to protect mature fish when angling effort and harvest is sufficiently high to threaten brood stock maintenance. These two management tactics would preclude the need for altering season opening dates. Sanctuaries on Rainy Lake and other District lakes have the support of resident anglers and the tourist industry.

Anglers and the tourist industry indicated their support for stocking as a means to improve fishing success. As suggested in the lake trout discussion, stocking as a management tool has proven most effective when used as a rehabilitation technique after fish populations have collapsed. This situation is not widespread in the Fort Frances District where natural sport fish populations still have the ability to restore quality fishing opportunities.

Rainy Lake, however, is currently receiving walleye fingerlings in an attempt to rehabilitate the walleye population of the North Arm basin. The District intends to increase annual stocking rates to a level of 100,000 fingerlings over the next five years. It is also the District's intention to assess the contribution this program makes to rehabilitation efforts.

Adult walleye transported to suitable waters, where they were not originally, has been shown to be an effective way of establishing self-sustaining populations. In an attempt to increase the supply of walleye and walleye angling opportunities, adult transfers will be considered on a limited and experimental basis. Seven candidate lakes have been identified but their suitability for this purpose must be examined more closely. It must be stressed that most lakes in the Fort Frances District already maintain walleye populations. The candidate lakes where this tactic may prove successful are relatively small and would provide only a marginal increase in

walleye supply. It should also be stressed that these lakes would be maintained for resident anglers.

Similarly, black crappie adult transfers will be considered on a trial basis. The Sawbill Lakes in FMZ 5 contain only northern pike and it would appear that these lakes are best suited for crappie introductions. The use of alternative species such as black crappie, smallmouth bass, yellow perch and whitefish to reduce angling effort directed at walleye and northern pike will assist in the enhancement of angling quality. Most user groups acknowledged that these fish could provide opportunities at a greater level. As indicated under the lake trout section, tourist operators have a variety of methods to attract angler interest in catching fish other than the traditional target species. Resident anglers may be enticed through such means as fish derbies for black crappie and bass. A diversified fishery represents a more stable fishery and this District intends to promote the use of alternative species. The reduction in the daily catch and possession limit for crappie from 40 to 30 fish is an example of maintaining angling quality for this species along with promoting conservation ethics.

Tourist facilities are extensively developed on Rainy Lake and inland lakes and the preferred sport fish species are fully committed. This plan will remain consistent with DLUG and will not permit new facilities or expansions based on additional consumptive use of sport fish until the District deals with resource conservation issues. Once harvest is aligned with allowable yield, proposals for increased tourism opportunities using Crown land as a development tool will be considered on an individual case basis. Similarly, fisheries concerns will be identified in the planning process for Crown land cottage subdivision proposals. No additional lakes have been proposed for this type of Crown land use apart from those identified in the Fort Frances Land Use Guidelines (OMNR 1983).

Intensified management efforts on District lakes will require some legislative changes. The District intends to address fisheries management priorities through the development of a District enforcement plan. Anglers and the tourist industry indicated a need for greater law enforcement and this concern has been recognized with the addition of a Conservation Officer in the Fort Frances District.

Data collection is a necessary component of fisheries management to determine management requirements and evaluate the success of tactics applied. Over the next five year period, this District will be heavily involved in gathering information before management actions are introduced. This background information or pre-assessment data may then be used to compare with data collected later to provide a measure of success for achieving management intent. The Fort Frances District remains committed to evaluating management actions that result from this plan and to assessing programs currently in place.

PROBLEM/ISSUE 2

Sport fish habitat requires protection to ensure long-term maintenance of self-sustaining populations.

STRATEGY:

Protect and/or rehabilitate critical sport fish habitat.

TACTICS:

- continue to provide input to timber management plans and other resource extraction or development proposals using the Guidelines For The Protection of Fish Habitat (OMNR 1987); (ALL ZONES)
- continue to enforce all pertinent acts and regulations related to fish habitat protection and co-operate with other agencies involved in environmental protection; (ALL ZONES)
- continue the lake survey program and expand data collection to include fish population and habitat assessment; (ALL ZONES)
- rehabilitate sport fish habitat in situations where there is a confirmed need through the involvement of concerned groups and individuals in the Community Fisheries Involvement Program (CFIP) and other MNR programs; (ALL ZONES)
- assess the effects of water levels manipulated by hydroelectric dams and water control structures to determine if sport fish recruitment is influenced by low or unstable water levels during spawning and egg incubation periods; and (ZONE 7)
- monitor agricultural activities to assess the influence on fish habitat. (Zone 1)

Anglers and the tourist industry recognize the need for protection of aquatic habitats to ensure long-term sport fish production. Protection of critical sport fish habitat will continue through input to the timber management planning process and other development proposals using the current fish habitat protection guidelines. Emphasis will continue to be placed on the protection of fish habitat in the vicinity of water crossings.

Monitoring aquatic environments in the vicinity of existing developments is necessary to ensure fish

habitat is maintained. These monitoring programs will begin in the Western Agricultural Zone (FMZ 1) as well as other areas of the District where major developments, such as stream and river crossings, are common.

Data needs, related to critical sport fish habitat on District lakes, will continue to be satisfied through the annual lake survey program. The District intends to upgrade the basic program as indicated under the lake trout management. Emphasis will continue to be placed on surveying lakes in the vicinity of proposed timber harvest operations.

There was consensus by anglers and the tourist industry on the need to rehabilitate critical fish habitat, particularly spawning areas. Both groups indicated their commitment to participate in rehabilitative efforts through the Community Fisheries Involvement Program (CFIP). Walleye spawning areas on Burditt Lake, Pickwick Lake, Nickel Lake and the Seine River have been suggested for rehabilitation.

Data required for sport fish habitat management on Rainy Lake will be gathered through an expansion of the habitat assessment program. There is an identified need for walleye spawning habitat rehabilitation throughout Rainy Lake and in particular on the North Arm. In addition, a study is required to assess the effect of spring water level fluctuations on walleye and northern pike spawning success. The District intends to address these management requirements within the next five year period.

PROBLEM/ISSUE 3

User conflicts occur where angling quality is reduced as a result of high harvest pressure and easy access to the fishery.

STRATEGY:

Minimize conflicts between and among user groups and other resource users.

TACTICS:

- continue to provide input to resource extraction or development proposals through the use of Forest Management Guidelines for the Protection of Tourism Values (OMNR 1986c); and (ALL ZONES)
- control resource access road use to protect quality angling opportunities where it is consistent with other resource management plans and policies. (ZONES 2,3,4,5,6,A3)

There is evidence of conflict among user groups regarding access and use of fisheries resources in the Fort Frances District. Most anglers fishing lakes in the District are non-residents. Conflicts are related to different perceptions concerning the level of road access control that should be imposed to maintain or enhance angling quality. The conflicts regarding sport fish are similar to those discussed under the lake trout section.

Protection of the natural character of shorelines will be addressed through the area of concern concept within the timber management planning process and Forest Management Guidelines for the Protection of Tourism Values (OMNR 1986c).

3.5.4 COMMERCIAL FISH (FOOD)

3.5.4.1 MANAGEMENT OBJECTIVE

To maintain a viable industry by encouraging the harvest of commercial fish under quota management where it meets biological, economic and social acceptance.

Commercial fishing must be recognized as a valid use of fisheries resources and a traditional activity in the Fort Frances District. The objective recognizes, however, that commercial fishing activities will be an accepted use only where it meets certain requirements.

Where commercial fishing does occur, species harvest will continue to be managed through the quota system currently in place.

3.5.4.2 TARGETS

Harvest	**Walleye**	**0 kg/yr**
	Northern pike	**13,979 kg/yr**
	Crappie	**above allowable yield**
	Whitefish	**42,250 kg/yr**
	Sturgeon	**2,273 kg/yr**

The commercial fish targets, by species, represent a refinement of the DLUG target statement. Walleye quotas are limited to Nanakan and Rainy Lakes. This target was further refined to reflect management of walleye as a recreational species and address the conservation issue. The northern pike target represents existing inland lake quotas in addition to a small harvest from Rainy Lake. Whitefish and sturgeon targets are existing District quotas and include traditional quotas on Rainy Lake and inland waters.

Black crappie targets cannot be firmly established because this fish species has demonstrated cyclical abundance. Commercial harvest occurs only on Rainy Lake and in combination with the recreational angling harvest, this species target is above the allowable yield. Crappie are the only fish species and Rainy is the only lake where harvest will be permitted to exceed allowable yield. Public comments indicated their desire to see Rainy Lake managed primarily as a walleye fishery. The interactions between walleye

and black crappie are not clear but a strong crappie population would appear to limit walleye rehabilitation efforts.

3.5.4.3 STRATEGIES AND TACTICS

The District is not aware of any problems or issues concerning commercial fishing activities on inland lakes nor did public comment identify any. The management strategy for inland lakes will be to maintain the status of existing quotas. Rainy Lake, however, generated discussion concerning the commercial fishing industry and will be managed as per the strategy and tactics indicated below.

PROBLEM/ISSUE 1

Commercial fishing on Rainy Lake contributes to overharvest of walleye and northern pike populations.

STRATEGY:

Reduce walleye and northern pike quotas to assist rehabilitative efforts and establish information based on monitoring the commercial catch to assist fisheries management.

TACTICS:

- reduce walleye and northern pike quotas through quota specific government purchase or by trading quotas for black crappie, yellow perch or whitefish;
  (ZONE 7)
- develop a program to investigate the use of alternate gear for commercial harvest operations; and
  (ALL ZONES)
- monitor commercial harvest to assist in the assessment of fish stocks, particularly walleye, northern pike, whitefish and crappie.
  (ALL ZONES)

The largest problem on Rainy Lake is related to multi-user competition for walleye and northern pike which produce harvest levels above allowable yield. The commercial fishery was responsible for 27 percent of the walleye harvest and 53 percent of the northern pike harvest (Table 1). Management strategies and tactics for Rainy Lake will be directed toward balancing species harvest with allowable yield. Decisions concerning the level of walleye and pike harvest associated with a particular user group will reflect accepted social and economic benefits that accrue through use of a limited resource.

The commercial fishery is selective for larger individuals that represent the mature adult segment of fish populations. Given the resource conservation issue in Rainy Lake and the rehabilitation efforts that are ongoing, commercial harvest becomes difficult to justify. Commercial fishing, however, is recognized in this District as a traditional use of fisheries resources. In this regard, managers will attempt to reduce the emphasis on walleye and northern pike harvest by encouraging a trade for other species quotas. For those individual fishermen who would like to retire from the industry, the District will consider purchasing their fishery.

The public has suggested commercial fisheries use impounding gear to reduce incidental harvest of non-target species. The District will investigate the feasibility of using alternate gear in specific situations to improve harvest selectivity and reduce the incidental catch of walleye and northern pike.

3.5.5 COMMERCIAL FISH (BAIT)

3.5.5.1 MANAGEMENT OBJECTIVE

To provide for the harvest of baitfish for use by the sport fishery recognizing the overall social and economic benefits generated through maintenance of a viable baitfish industry.

The above management objective for commercial harvest of baitfish recognizes the important service this industry provides to the sport fishery as well as social and economic benefits derived from the use of this resource. Public comments suggest the desire to see these benefits maintained through a viable baitfish industry. The District feels that demand can be met through natural baitfish production as well as artificial aquaculture in specific situations.

3.5.5.2 TARGET

Harvest	**244,000 dozen**

The above target reflects projected demand for baitfish to the year 2000 through the natural and artificial culture.

3.5.5.3 STRATEGIES AND TACTICS

PROBLEM/ISSUE 1

Conflicts occur among users of the resource and users of the environment.

STRATEGY:

Minimize the conflicts among the tourist, timber and baitfish industries.

TACTICS:

- maintain the policy of limiting lake specific licenses to selected situations where supply is a

confirmed problem;
(ALL ZONES)

- maintain the current system of licencing baitfish harvest by block;
(ALL ZONES)
- provide the forum for communication between the baitfish and tourism industries to discuss supply and demand concerns; and
(ALL ZONES)
- continue to identify waterbodies known to be used for baitfish production and protect where necessary from timber harvest activities.
(ALL ZONES)

It would appear that the biggest problem with baitfish and the industry is the high demand for licenses. The greatest annual demand is by private land owners wanting to trap baitfish on a part-time basis from waterbodies on or adjacent to their properties. Concern by tourist operators that the industry cannot supply their needs promotes the next highest number of requests for licenses to harvest baitfish from specific areas.

Subdividing baitfish blocks to accommodate demand is not acceptable to the baitfish industry. The Fort Frances District will not subdivide blocks as this approach does not promote industry stability, nor wise use of the resource. Rather, the approach that will be maintained is the current policy of licencing by block.

This District will move in the direction of reducing the number of licenses for part blocks because of the administrative and management problems created by subdivision. Consolidation of licenses for part blocks will be attempted through negotiations with licensees. A reduction in the number of licenses issued to private land owners who do not control access to waterbodies they harvest, is also required. This may be an appropriate time to encourage cooperation between private land owners and commercial baitfishermen who hold licenses to harvest baitfish from the public waters of their entire licenced block.

While the District recognizes the desire of tourist operators to acquire area specific licenses, improved baitfish supply or distribution could be achieved through better communication between the baitfish and tourism industries. In the interim, a review of area specific licence requests will be conducted which require tourist operators to substantiate claims of poor baitfish supply.

The baitfish and tourist industries are aware that little information is available to support the perception that timber harvest is detrimental to baitfish populations. A conservative approach is warranted until the relationships are examined. The District is prepared to protect baitfish lakes where concerns have been identified through the Guidelines for the Protection of Fish Habitat (OMNR 1987). For this approach to be effective, the baitfish industry must provide information regarding the location of lakes used for baitfish harvest.

PROBLEM/ISSUE 2

Information on many aspects of baitfish biology as well as the baitfish industry is lacking.

STRATEGY:

Improve District data regarding baitfish production biology and the baitfish industry.

TACTICS:

- improve communication between MNR and the baitfish industry; and
(ALL ZONES)
- encourage and support scientific studies regarding baitfish production.
(ALL ZONES)

All management tactics applied to the solution of baitfish management problems require a strong foundation based on effective communication among fisheries managers and all user groups. The baitfish industry has indicated a willingness to assist the District in developing an improved harvest reporting form. Meetings will be undertaken with the baitfish industry to achieve this. In addition, standards for "holding facilities" will be developed and applied to baitfish operations.

Additional information is required to develop a method of determining annual harvest levels that baitfish lakes can withstand on a sustained basis. These types of production estimates along with predicting the effects of shoreline and habitat changes on production, such as timber harvest, cannot be addressed on a District level. Rather, this District will support scientific investigations by university students and the baitfish industry during studies of this nature.

Potential baitfish lakes may be identified by the collection of information through the lake survey program. This information can be passed on to the baitfish industry. Once again, providing information can assist greatly in the management of baitfish and other fisheries resources.

4.0 IMPLEMENTATION

4.1 INTRODUCTION

Responsibility for the preparation of this fisheries management plan lies with the District Manager, while the responsibility for approval rests with the Regional Director. This plan will be reviewed every five years or when major revisions are deemed necessary. Significant modifications to the plan will follow the same approval process as the original document.

Approved changes in this plan will be reflected in changes to the District Land Use Guidelines (DLUG). Likewise, changes in the direction given by the District Land Use Guidelines may cause revision of this fisheries management plan.

4.2 IMPLEMENTATION SCHEDULES

The strategies and tactics indicated in the above text will be phased-in during successive five year operating periods to the year 2000. Specific management tactics that will be implemented during the first five year period are indicated in the following Tables 3 through 9. Certain tactics can be undertaken with the present level of funding while other tactics not currently in place will require additional funding.

Not all program areas can be addressed in the first five year period. Although all are of concern, there is a need to establish implementation priorities. Program priorities are largely a function of the problem or issue to be solved. Implementation of management tactics related to these priorities is dependent upon the nature of the problem, complexity of implementation and existing program workload. In many cases the tactics and associated operations described in the implementation schedule will be a continuation of routine programs, such as resource extraction proposal review and administration of commercial fisheries. Certain management tactics, however, represent new initiatives and will require additional funding and staff for implementation. How much the District can deliver in the course of five years will depend on the availability of additional funding. It must be remembered that provincial funding is limited and is required for fisheries management in 47 other Districts. Since an Ontario resident angling licence has become a reality, additional funding will be available to take on new initiatives.

TABLE 3: IMPLEMENTATION SCHEDULE FOR PUBLIC EDUCATION, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Extension services to provide technical advice to users wishing to develop special management actions	All Zones		X	X	
Provide the general public with more information regarding new fisheries management techniques	All Zones		X	X	
Increase public participation and consultation regarding fisheries management actions	All Zones		X	X	
Increase public participation in fisheries management through the Community Fisheries Involvement Program (CFIP) and volunteer initiatives	All Zones		X	X	
Ensure that education courses emphasize fisheries management concepts, principles and techniques	All Zones		X	X	

TABLE 4: IMPLEMENTATION SCHEDULE FOR FISHERIES MANAGEMENT ZONES, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Develop Fisheries Management Zones	All Zones		X	X	

TABLE 5: IMPLEMENTATION SCHEDULE FOR LAKE TROUT MANAGEMENT ACTIONS, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Reduce the daily catch and possession limit to 2 lake trout for all anglers	All Zones	X		X	
Require all non-resident lake trout anglers to use tourist facilities	All Zones	X		X	
Review all proposals for expansion of tourist capacity on an individual case basis	All Zones		X	X	
Work with tourist operators to reduce lake trout harvest	All Zones		X	X	
Assess lake trout harvest	FMZ 2		X	X	
	FMZ 3		X		X
	FMZ 5		X	X	
Promote the use of alternate fish species	All Zones		X	X	
Daily catch limit of 1 lake trout and a possession limit of 2 where only 1 may be greater than 65 cm (25.5 in) total length	FMZ 3	X			X
	FMZ 5	X		X	
Develop a lake trout tag system for non-resident anglers if necessary	All Zones	X			X
Expand law enforcement efforts	All Zones		X	X	
Provide input to resource extraction and development proposals	All Zones		X	X	
Enforce all pertinent acts and regulations related to fish habitat protection	All Zones		X	X	
Continue the lake survey program and expand data collection to include fish population and habitat assessment	All Zones		X	X	
Rehabilitate degraded trout habitat through CFIP	All Zones		X	X	
Control resource access road use where consistent with other resource management plans	FMZ 2	X		X	
	FMZ 3	X		X	
	FMZ 5	X		X	
	FMZ 6	X		X	
	FMZ A3	X		X	

TABLE 6: IMPLEMENTATION SCHEDULE FOR MUSKELLUNGE MANAGEMENT ACTIONS, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Assess new regulatory change	All Zones		X	X	
Require all non-resident muskellunge anglers to use tourist facilities	All Zones	X		X	
Develop a muskellunge tag system that provides 2 fish per year for all anglers	All Zones	X			X
Provide muskellunge habitat the same protection as lake trout habitat	All Zones		X	X	
Continue the lake survey program and expand data collection to include muskellunge habitat assessment	All Zones		X	X	

TABLE 7: IMPLEMENTATION SCHEDULE FOR SPORT FISH MANAGEMENT ACTIONS, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Possession of only 1 walleye greater than 50.0 cm (19.5 in) total length	All Zones	X		X	
Possession of only 1 northern pike greater than 65.0 cm (27.5 in) total length	All Zones	X		X	
Reduce the daily catch and possession limit of black crappie to 30 fish	All Zones	X		X	
Promote the use of alternate fish species	All Zones		X	X	
Review all proposals for expansion of tourist capacity on an individual case basis	All Zones		X	X	
Improve law enforcement efforts	All Zones		X	X	
Expand the Restricted Crown Land Camping Program	All Zones		X	X	
Assess sport fish harvest	FMZ 2		X	X	
	FMZ 3		X		X
	FMZ 4		X	X	
	FMZ 5		X	X	
	FMZ 6		X		X
	FMZ 7		X	X	
Possession of only 1 walleye over a maximum size and a possible slot-size restriction	FMZ 7	X		X	
Review of the non-resident Daily Angling Validation Tag Program	FMZ 2	X		X	
	FMZ 3	X			X
	FMZ 4	X		X	
	FMZ 5	X			X
	FMZ 6	X			X
	FMZ 7	X		X	
	FMZ 8	X		X	
Establish fish sanctuaries where required	FMZ 7	X		X	
	- Big Canoe	X		X	
	- Little Canoe	X		X	
	- Stanjicoming	X		X	
	- Halfway Inlet	X		X	
	- Crooked Narrows	X		X	
	- Stokes Bay	X		X	
	- Lyons Bay	X		X	
	- Porters Inlet	X		X	
	- Rat River	X		X	

TABLE 7: IMPLEMENTATION SCHEDULE FOR SPORT FISH MANAGEMENT ACTIONS, FORT FRANCES DISTRICT (continued)

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Develop additional walleye angling opportunities through adult transfers	FMZ 3				
	- Vedette		X	X	
	FMZ 4				
	- Moose		X	X	
	- Muskeg		X	X	
	- Van		X		X
	FMZ 5				
	- Ryckman		X		X
	FMZ 6				
	- Heron		X		X
	- Makomesut		X	X	
Develop additional black crappie angling opportunities through adult transfers	FMZ 5				
	- Sawbill		X	X	
Increase the walleye rearing program to produce 100,000 fingerlings	FMZ 7				
	- Rainy (North Arm)		X	X	X
Assess water levels to determine influence on sport fish recruitment	FMZ 7		X	X	
Provide input to resource extraction and development proposals	All Zones		X	X	
Continue to enforce acts and regulations related to fish habitat protection	All Zones		X	X	
Continue the lake survey program and expand data collection to include fish population and habitat assessment	All Zones		X	X	
Monitor agricultural activities to assess the influence on fish habitat	FMZ 1		X	X	
Rehabilitate degraded habitat through the Community Fisheries Involvement Program (CFIP) and other MNR programs	All Zones		X	X	
Control resource access road use	FMZ 2	X		X	
	FMZ 3	X		X	
	FMZ 4	X		X	
	FMZ 5	X		X	
	FMZ 6	X		X	
	FMZ A3	X		X	

TABLE 8: IMPLEMENTATION SCHEDULE FOR COMMERCIAL FISH (FOOD) MANAGEMENT ACTIONS, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION 1987 TO 1991	IMPLEMENTATION 1992 TO 2000
		YES	NO		
Reduce the level of commercial fishing through purchase of entire licences	FMZ 7		X	X	
Investigate the use of alternative gear	All Zones		X	X	
Monitor commercial harvest to assist fish population assessment	All Zones		X	X	

TABLE 9: IMPLEMENTATION SCHEDULE FOR COMMERCIAL FISH (BAIT) MANAGEMENT ACTIONS, FORT FRANCES DISTRICT

SUMMARY OF TACTICS	AREA (FMZ OR LAKES)	LEGISLATIVE CHANGE REQUIRED		IMPLEMENTATION	
		YES	NO	1987 TO 1991	1992 TO 2000
Maintain the current system of licencing by block	All Zones		X	X	
Maintain the policy of limiting lake specific licences	All Zones		X	X	
Provide the forum for communication between industries to discuss supply and demand	All Zones		X	X	
Identify waterbodies known to be used for baitfish production and protect where necessary from timber harvest activities	All Zones		X	X	
Improve communication between MNR and the baitfish industry	All Zones		X	X	
Encourage and support scientific studies regarding baitfish production	All Zones		X	X	

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GLOSSARY

ALLOWABLE YIELD

The weight of fish by species, that can be harvested annually from a lake, on a sustained basis, while maintaining angling quality.

ANGLER OPPORTUNITY

Any amount of effort in a day constitutes an angler-day; For the purpose of converting angler-hours to angler-days, 4 hours will be used.

DAILY ANGLING VALIDATION TAG

A program implemented in 1985 on Rainy Lake, Rainy River, and Lake of the Woods whose intent was to: limit sport fish harvest on these waterbodies by non-Ontario based non-residents; obtain resource rent for use of Ontario's fisheries resources by these user groups; and to encourage use of existing tourism facilities.

AQUATIC HABITAT INVENTORY

A basic study of a lake or river to determine species present, water chemistry, depth, water volume and other characteristics. The information obtained can be used to determine the potential and allowable yields of a lake.

AREAS OF CONCERN

Areas requiring particular management prescription in order to maintain or improve resource values such as fish and wildlife habitat, forest resources, scenic areas and other recreational and tourism values.

BAIT FISH

Any fish species that can legally be harvested by the commercial bait fish industry.

BOAT CACHE

One or more boats authorized to be left unattended on Crown land for a period of time.

COARSE FISH

Fish species which are not normally sought by recreational anglers (e.g. suckers, ling etc.)

COLDWATER LAKES

Those lakes having characteristics which would support salmonids such as lake trout or brook trout. Usually are relatively deep, clearwater lakes.

COMMERCIAL FISH

Any fish that are harvested by the commercial fishing industry under the authority of a licence.

CREEL SURVEY (CENSUS)

A survey of anglers to determine angler origin, number of fish caught, species of fish caught, weights of fish and number of hours fished. Other information such as gear being used and information on the age of fish may also be collected.

CRITICAL FISH HABITAT

Any fish habitat required for the maintenance of a healthy fish population or otherwise identified as essential to the achievement to the Ministry's program objectives.

CROWN LAND RECREATION PROGRAM

An initiative implemented in 1984 within the Northwestern Administrative Region. The intent of this initiative was to encourage non-residents of Canada to use existing tourist facilities and thereby contribute to local and provincial economies through use of Ontario's fishery resources and to generate revenue from non-resident use of Crown land. In addition, this program involves the designation of areas closed to non-resident camping to redistribute use from sensitive fisheries.

FISHING QUALITY

This refers to the total angling experience including success, diversity of fish species available to catch, broad size range of fish including trophy specimens, and type of angling environments (remote wilderness experiences or experiences which are more accessible by road or boat).

GOAL

A general purpose to which the Ministry aspires.

HARVEST

Fish taken and kept by fisheries resource users.

INDIAN SUBSISTENCE

Fish harvested by Indian people and used for personal consumption.

LIMITED-ENTRY FISHERY

A fishery that limits the number of anglers permitted to fish on a lake. Harvest restrictions may also be applied.

MANAGEMENT

The judicious use of means to achieve specific ends. Management may have various levels of intensity.

MAXIMUM-SIZE LIMITS

A management technique that protects fish above a specified length (ie) fish caught that are smaller than the minimum length must be released.

NON-RESIDENT

An angler whose principle residence is outside Canada. However, specific references are made to non-residents of Ontario which refer to an angler whose principle residence is outside Ontario.

OBJECTIVE

A quantifiable and attainable end which the Ministry's efforts are intended to accomplish.

OUTPOST

A form of tourist operation usually consisting of housekeeping accommodations located primarily in remote areas with limited access.

OVERHARVEST

Harvest of fish which exceeds the annual allowable yield.

POLICY

A government decision concerning the objectives to be achieved and the means of achieving them. For resource management planning, we are mainly concerned with the objectives, targets and strategies and tactics.

REHABILITATION

This term may be applied to both fish populations and fisheries habitat. In both instances rehabilitation denotes efforts to enhance or restore a degraded or stressed situation to its original condition.

RESIDENT

An angler whose principle residence is in Canada.

SLOT-SIZE

A management technique that protects fish within a specified length range (ie) fish caught that fall within the length range must be released. The slot protects breeding individuals.

SPORT FISH

Any fish that are legally caught by angling. Usually include such species as: walleye, northern pike, perch, lake trout, brook trout, smallmouth bass, muskellunge, and lake sturgeon.

STRATEGY

Broadly planned actions or measures to achieve a desired end.

TACTIC

A method devised to achieve one or more strategies.

TARGET

A quantified end to be achieved or completed by a specific date.

TOURISM

The business of attracting visitors and catering to their needs and expectations. Visitors are travellers who will return home after their visit and who may return to pay another visit.

TOURIST OPERATION

An establishment or facility which consists of any one or a combination of any of the following: cabin establishment, camping establishment, cottage establishment, hotel, motel, motor hotel, outpost establishment, resort, houseboat operation or boat cache and is generally in the tourism business. (Tourist or tourism operator or outfitter have corresponding meanings).

TROPHY FISHERY

A fishery managed for trophy opportunities. It provides the opportunity to catch a large fish.

WARMWATER LAKES

Those lakes other than coldwater lakes.

WARMWATER STREAMS

Those streams other than coldwater streams.

WORK PLAN

A plan prepared annually which defines what management activities are to be undertaken for that year. Direction is taken from the implementation schedule.

APPENDIX 1: SUMMARY OF PUBLIC CONSULTATION

Public consultation efforts followed a systematic approach. The first step in this approach was the development of a COMMUNICATIONS PLAN which was incorporated into the TERMS OF REFERENCE, FORT FRANCES DISTRICT FISHERIES MANAGEMENT PLAN (1985a).

The objectives of the COMMUNICATIONS PLAN were twofold;

1 TO INFORM SPECIFIC INTEREST GROUPS AND THE GENERAL PUBLIC OF FISHERIES MANAGEMENT PLANNING IN THE FORT FRANCES DISTRICT.

2 TO INDICATE TO INTERESTED GROUPS AND INDIVIDUALS IN THE DISTRICT HOW THEY MIGHT PARTICIPATE IN THE FISHERIES MANAGEMENT PLANNING PROCESS.

The COMMUNICATIONS PLAN describes the audiences to be contacted and the various communications initiatives to be implemented.

A mailing list was established and maintained throughout the planning process. The initial mailing list was compiled from lists of individuals, groups or organizations who had an interest in fisheries management planning during the DLUG planning process. The mailing list was updated as planning progressed.

PHASE 1 COMMUNICATIONS INITIATIVES

INITIATIVE	MEDIUM	DATES OF PRESENTATION
DISTRICT NEWS RELEASE - This release explained the intent of fisheries management planning, the planning process and invited public involvement.	FORT FRANCES TIMES RAINY RIVER RECORD	SEPT. 4 AND 11, 1985
LETTERS OF INVITATION	MAIL - Letters sent to all individuals/groups on the mailing list inviting them to attend the open house.	NOV. 22, 1985
INVITATION FOR PUBLIC COMMENT ON THE SUMMARY DOCUMENT AND OPTIONAL MANAGEMENT STRATEGIES	FORT FRANCES TIMES RAINY RIVER RECORD	NOV. 27, DEC. 4, 1985
OPEN HOUSE - SUMMARY DOCUMENT AND OPTIONAL MANAGEMENT STRATEGIES	RED DOG INN, FORT FRANCES	DEC. 10, 1985
REMINDER FOR THE SUBMISSION OF COMMENTS	MAIL - Letter sent to all persons in attendance at the open house or having a summary document.	DEC. 12, 1985
EXTENSION OF DEADLINE FOR SUBMISSION OF COMMENTS	FORT FRANCES TIMES RAINY RIVER RECORD	DEC. 24, 1985 JAN. 2, 1986
THANK YOU FOR COMMENTS	FORT FRANCES TIMES RAINY RIVER RECORD	JAN. 29, FEB. 5, 1986

PHASE 2 COMMUNICATIONS INITIATIVES

INITIATIVE	MEDIUM	DATES OF PRESENTATION
INVITATION TO THE FIRST DRAFT MANAGEMENT PLAN OPEN HOUSE	FORT FRANCES TIMES	APR. 23, 30, 1986
	RAINY RIVER RECORD	
LETTERS OF INVITATION	MAIL - Letters sent to all individuals/ groups on the mailing list inviting them to attend the open house.	APR. 29, 1986
OPEN HOUSE - FIRST DRAFT MANAGEMENT PLAN	RED DOG INN, FORT FRANCES	MAY 5, 1986
	LEGION HALL, RAINY RIVER	MAY 9, 1986
REMINDER FOR THE SUBMISSION OF COMMENTS	MAIL - Letter sent to all persons in attendance at the open house or having a draft	MAY 28, 1986
FACT SHEET: PROPOSED CHANGES TO THE DRAFT FISHERIES MANAGEMENT PLAN	MAIL - Fact sheets sent to all individuals/ groups on the mailing list	SEPTEMBER 22, 1987
HIGHLIGHTS OF THE FORT FRANCES DISTRICT FISHERIES MANAGEMENT PLAN AND INVITATION TO COMMENT	FORT FRANCES TIMES	SEPTEMBER 23, 1987
	RAINY RIVER RECORD	SEPTEMBER 24, 1987
INVITATION TO THE SECOND DRAFT	FORT FRANCES TIMES	SEPTEMBER 24, 1987
MANAGEMENT PLAN OPEN HOUSE	RAINY RIVER RECORD	SEPTEMBER 24, 1987
OPEN HOUSE - SECOND DRAFT MANAGEMENT PLAN	COMMUNITY CENTRE, RAINY RIVER	SEPTEMBER 28, 1987
	RED DOG INN, FORT FRANCES	SEPTEMBER 29, 1987

DETAILS ON OPEN HOUSES HELD DURING THE FISHERIES MANAGEMENT PLANNING PROCESS

PURPOSE	DATE(S)/LOCATIONS	ATTENDANCE	NO. OF DOCUMENTS DISTRIBUTED	NO. OF COMMENT SHEETS	TOTAL COMMENTS GENERATED
PRESENTATION OF SUMMARY OF BACKGROUND INFORMATION AND INTRODUCTION TO OPTIONAL MANAGEMENT STRATEGIES	DEC. 10, 1985 RED DOG INN FORT FRANCES	109	311	208	2627
PRESENTATION OF FIRST DRAFT MANAGEMENT PLAN	MAY 5, 1986 RED DOG INN FORT FRANCES	84	258	21	107
	MAY 9, 1986 LEGION HALL RAINY RIVER	20			
PRESENTATION OF SECOND DRAFT MANAGEMENT PLAN	SEPTEMBER 28, 1987 COMMUNITY CENTRE RAINY RIVER	8	100	39	195
	SEPTEMBER 29, 1987 RED DOG INN FORT FRANCES	15			

APPENDIX 2: AMENDMENTS TO THE FORT FRANCES DISTRICT LAND USE GUIDELINES (DLUG)

	MANAGEMENT INTENT	FISHERIES MANAGEMENT PLAN
Lake Trout Targets	Harvest 11,000 to 34,000 kg/yr Opportunities - none specified	Harvest 30,100 kg/yr Opportunities - 20,060 angler-days Harvest (allowable yield) has been refined to reflect a constant value rather than a range. Opportunities reflect an angler-day harvest level of 1.5 kg per-angler day.
Muskellunge Objective	none specified	To maximize high quality recreational fishing opportunities while maintaining self-sustaining populations. The Fort Frances District intends to manage muskellunge as a recreational/trophy fishery capable of natural reproduction.
Sport Fish Objective	To meet the demand for sport fishing consistent with the limits of optimum sustainable yield.	To provide for optimum social and economic benefits derived through sport fish while maintaining self-sustaining populations. Although these objectives appear similar, the change recognizes the social and economic benefits of sport fish use while maintaining natural reproduction.
Sport Fish Targets	Harvest 403,000 kg/yr Opportunities - 201,500 angler-days Opportunities estimated at an angler-day harvest rate of 2.0 kg sport fish per angler-day.	Harvest 394,600 Opportunities - 333,050 angler-days Harvest has been refined to reflect improvements in the estimate of allowable yield. Opportunities here have been estimated at the current harvest (kill) rate of 1.2 kg sport fish per angler-day.
Commercial Fish (Food) Target	Sport Fish 73,000 kg/yr Coarse Fish 197,000 kg/yr	Walleye 0 kg/yr N. Pike 13,980 kg/yr Whitefish 42,250 kg/yr Sturgeon 2,270 kg/yr Crappie above allowable yield Walleye and northern pike quotas are reduced to reflect the resource conservation issue and management of these species for recreational pursuit. Sturgeon and whitefish targets reflect current quota values. Crappie harvest above allowable yield level (Rainy Lake) are to imporve walleye rehabilitation efforts.

APPENDIX 3: SUMMARY OF LAKES LOCATED ON DISTRICT BOUNDARIES AND MANAGEMENT RESPONSIBILITY FOR THESE LAKES

BORDER DISTRICT	LAKE	MANAGEMENT RESPONSIBILITY			
		ATIKOKAN	DRYDEN	FORT FRANCES	KENORA
ATIKOKAN	Beynon Lake			X	
	Calm Lake	X			
	Duff Lake			X	
	Kemp Lake	X			
	Mount Lake			X	
	Ricemere Lake	X			
	Roman Lake	X			
	Roughstone Lake			X	
	Side Lake	X			
	Silvertip Lake			X	
	49 01' 15" 92 12' 45"	X			
	49 01' 15" 92 14'	X			
DRYDEN	Bait Lake		X		
	Dorothy Lake			X	
	Fish Hawk Lake		X		
	Kinnyu Lake			X	
	Lost Axe Lake			X	
	Meggissi Lake			X	
	Merrill Lake			X	
	Skinny Lake		X		
	Sunshine Lake		X		
	Surprise Lake		X		
	Taylor Lake		X		
	Upper Manitou Lake		X		
	Uphill Lake			X	
	49 11' 50" 92 19' 20"			X	
	49 11' 50" 92 29' 30"			X	
	49 11' 50" 92 31' 06"			X	
	49 11' 50" 92 34' 06"			X	
	49 12' 24" 92 35' 30"			X	
	49 14' 54" 92 35' 30"			X	
	49 22' 92 35' 30"			X	
	49 22' 92 56' 06"			X	
	49 22' 92 09'			X	
	49 22' 92 13' 30"			X	
	49 22' 92 24' 54"			X	
KENORA	Bass Lake			X	
	Brownstone Lake				X
	Clarkson Lake			X	
	Kakabikychan Lake				X
	Kakagi Lake				X
	Katimiagamak Lake			X	
	Otterskin Lake			X	
	Rowan Lake				X
	49 09' 93 43'				

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